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THE  
AVIFAUNA OF BRITISH INDIA  
AND ITS DEPENDENCIES.

A SYSTEMATIC ACCOUNT,  
WITH DESCRIPTIONS OF ALL THE KNOWN  
SPECIES OF BIRDS INHABITING BRITISH INDIA, &  
OBSERVATIONS ON THEIR HABITS, NIDIFICATION, &c.,  
TABLES OF THEIR GEOGRAPHICAL  
DISTRIBUTION IN PERSIA, BELOOCHISTAN,  
AFGHANISTAN, SIND, PUNJAB, N. W. PROVINCES,  
AND THE PENINSULA OF INDIA GENERALLY,

WITH  
WOODCUTS, LITHOGRAPHS, AND COLOURED ILLUSTRATIONS.

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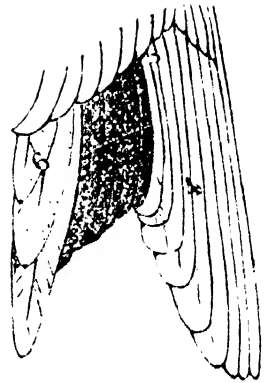
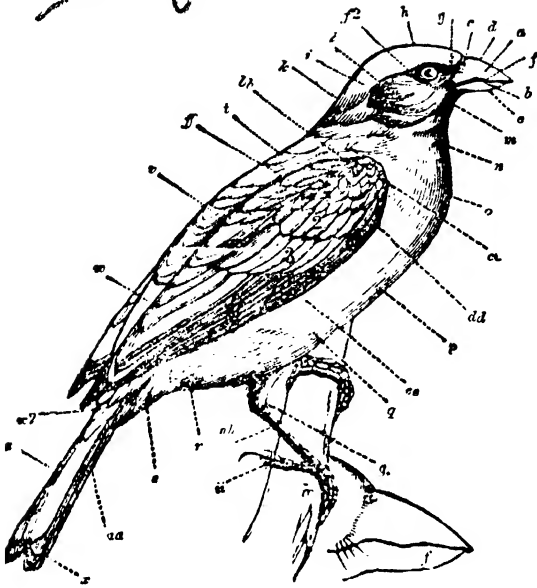


VOLUME I.—PART I.

LONDON:—RICHARDSON & Co., 13 Pall Mall.  
BOMBAY:—EDUCATION SOCIETY'S PRESS, BYCULLA.



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- a* Upper mandible.
- b* Lower mandible.
- c* Nostrils.
- d* Culmen or keel.
- e* Gonys.
- f* Margins of mandibles or commissure.
- f2* Ophthalmic region, or orbit.
- g* Forehead.
- h* Crown.
- i* Sinciput or hind head.
- k* Nape.
- l* Ear-coverts.
- m* Chin or mentum.
- n* Throat.
- o* Breast.
- p* The body.
- q* Belly or abdomen.
- r* Vent.
- s* Under-tail coverts.

- t* Interscapularies or back.
- v* Lower back.
- w* Rump.
- w2* Upper-tail coverts.
- x* Tail feathers.
- z* Central or median tail feathers.
- aa* Lateral tail feathers.
- bb* Shoulder of wing.
- cc* Shoulder joint (lesser wing coverts).
- dd* Axilla, or edge of wing.
- ee* Spurious wing or primary coverts.
- ff* Scapulars.
- gg* Thigh or tibia.
- hh* Tarsus.
- ii* Toes.

- 1 Lesser coverts.
- 2 Median coverts.
- 3 Greater coverts.
- 4 Primaries.
- 5 Secondaries.
- 6 Tertiaries.
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- 8 Cere.



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THE  
AVIFAUNA OF BRITISH INDIA  
AND  
ITS DEPENDENCIES.

---

**ORDER—ACCIPITRES.**

Bill short, strong, stout, covered at the base with a cere or naked skin and strongly curved; the tip perpendicular; nostrils open. Legs and feet muscular and strong, the latter armed with powerful curved, sharp, elongated talons capable of being bent under the feet. Toes four, three in front and one behind.

The Accipitres or Raptores vary greatly in size. The Vultures and Eagles comprise some of the largest of the feathered tribes, while the Falcons are small. The order comprising these is analogous to the feline quadrupeds, and forms a distinct and primary one in the class of birds. They are readily recognized by their strong hooked bill, the upper mandible of which is longer than the lower. The edges in some are festooned or toothed to assist in the operation of tearing their prey. They are notoriously the most muscular and powerful. The muscles of their legs and feet are of great strength to enable them to strike down or hold their prey. The greater number are suited for rapid flight and live on prey got by their own courage and exertions. The Vultures however are slothful, large bodied, and, not unlike the Hyæna, feed upon carrion and act the part of scavengers.

The males are always smaller than the females, and owing to this difference in size of the sexes, and the almost totally different plumage of the various stages of growth of the members, from the young to the adult, they are difficult to determine, even with large series of specimens. In number and species they are not many—taking them world wide—compared with the Insessores or perching birds. For special reasons in the economy of nature they are not prolific, but propagate slowly. Many lay but one egg, others two, and none of the order are known to lay more than four, nor to breed more than once a year.

The order is divided by Sharpe (*Cat. Acc. Br. Mus.*) into three sub-orders, viz., Falcones, Pandiones, and Striges; four families, viz.:—Vulturidæ, Falconidæ, Bubonidæ and Strigidæ, and these again into nine sub-families. The members of 7 (seven) only occur in India, the exceptions being the Polyborinæ and Sarcoramphinæ.

The following is the division of the Accipitres:—

SUB-ORDER—Falcones.

*Family*—Vulturidæ.

*Sub-Family*—Vulturinæ.

*Family*—Falconidæ.

*Sub-Family*—Accipitrinæ.

„ Buteoninæ.

„ Aquilinæ.

„ Falconinæ.

SUB-ORDER—Pandiones.

SUB-ORDER.—Striges.

*Family*—Bubonidæ.

*Sub-Family*—Buboninæ.

„ Syrninæ.

*Family*—Strigidæ.

These comprise the Vultures, the Falcons, and the Owls, the two former are diurnal, and the latter nocturnal birds of prey.

**SUB-ORDER—FALCONES.**

Toes without feathers; outer toe not reversible; eyes lateral; cere soft and fleshy, generally not hidden by bristles. Facial disk none. Plumage compact.

**Family—VULTURIDÆ—VULTURES.**

Upper mandible not toothed, sometimes sinuate. Head and neck more or less bare or clothed only with short down. No true feathers on crown of head.

**Sub-Family—VULTURINÆ,—VULTURES PROPER.**

Nostrils not perforated. 1st quill short, 3rd and 4th subequal, 4th longest; tarsi reticulate.

These are the scavengers of nature wherever they occur, especially in hot countries where putrefaction is rapid. Their food imparts to them a fœtid odour, which, according to some writers, is a means of defence, for, if seized during the torpid inactivity which succeeds their meals, they disgorge the nauseous contents of their craw over the luckless captor in order that he may quickly and loathingly relinquish his hold.

Gen. **Vultur**.—*Linn.*

Bill higher than broad. Cere large. Nostrils rounded, naked. A neck ruff present.



1. **Vultur monachus**, *Linn. S. N.* i., p. 122; *Jerd. B. of Ind.* vol. i. p. 6; *Hume, Str. F.*, vol. vii., p. 321; *Murray, Hdbk. Zool., &c., Sind*; *id. Vert. Zool. Sind*, p. 61; *Sharpe, Cat. Acc. Br. Mus.* p. 3.—The CRESTED OR GREAT BROWN VULTURE.

*Adult*.—Colour rich dark chocolate brown throughout, including the crop patch, darker on the wings, tail, and under parts. Feathers of the nape lengthened, lanceolate, and forming a ruff. Lores, cheeks, and throat downy, also a patch on the occiput; rest of head and neck both behind and laterally bare, and of a livid flesh colour in life. Bill black; feet yellowish; iris dark brown.



*Length*.—42 to 45 inches; expanse 96 to 118; wing 29·5 to 32; culmen 3·3; tarsus 4·25.

*Hab.*—A native of Europe. Found on the lofty mountains of Italy, the Tyrol, and also in Africa. In India it affects the hilly ranges of Central India, Guzerat, Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajpootana, Central India, Kutch, Tennaserim, and the Nepal Valley. In the Himalayas it is fairly abundant; also in Assam and Bhootan.

There is no positive information as to the breeding of this Vulture in India, but from facts collected by Mr. A. O. Hume and recorded in his "Rough Notes on Indian Ornithology and Oology," it is probable that it breeds in the Himalayas from January to March. The Rev. H. B. Tristram, "Ibis," 1865, and Mr. C. Farman give interesting particulars of its nidification in Central Bulgaria and Palestine. In the Pyrenees it is said to lay two eggs, varying from a more or less pure white with scarcely any trace of markings, to a reddish or fulvous white, richly marked with reddish brown; in shape a very blunt slightly pyriform oval; texture coarse and rough; size 3·48 × 2·75 inches.

Gen. **Gyps**.—*Savigny*.

Tarsus shorter than middle toe; 14 tail feathers; nostrils perpendicular, rather oval.



2. **Gyps fulvus**, *Hume, Rough Notes*, p. 19; *Str. F.*, vol. vii. p. 322; i., p. 149; *Ibis* 1869; *Sharpe, Cat. Acc. Br. Mus.* (Sub-Sp. B.), p. 7;

*Murray, Hdbk. Zool, &c., Sind*, p. 102; *id. Vert. Zool. Sind*, p. 63.—The BAY VULTURE.

*Adult*.—Top of head, cheeks, chin, and throat covered with dingy, yellowish-white hair-like feathers. Nape and whole of neck (except the back and basal one-fifth or less) also covered, but with dense, fur-like yellowish-white down. Crop patch pale wood brown, or dark brown; rest of under surface rufous or fulvous brown, with conspicuous whitish central stripes, the under wing coverts darker. Upper back, whole of upper wing coverts, and all but the longest scapulars, rufous ashy, or brownish rufous fawn. Secondaries, tertials, and longer scapulars umber brown. Lower back and rump brown, with distinct central streaks of fulvous white, the upper tail coverts more rufescent. Quills brownish black, the primaries shaded with ashy grey, the secondaries externally washed and tipped with rufous ashy. Tail black, the feathers somewhat shaded with brown on their margins. Feathers of the ruff lanceolate, brown or rufous fawn, mesially streaked with whitish.

*Length*.—41 to 47 inches; expanse 94 to 106; wing 27 to 30; tail 12·5 to 13·5; culmen 3·7; tarsus 3·88 to 4.

*Hab*.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Rajpootana, Central India, Kutch, and Guzerat. Breeds during January and February on lofty trees, laying a single white egg usually soiled and discoloured by the droppings of the parent bird. Size 3·5 × 2·8 inches.

**3. Gyps himalayensis**, *Hume, Rough Notes*, i. p. 14 (1869); *Jerdon, Ibis*, 1871, p. 235; *Sharpe, Cat. Acc. Br. Mus.* p. 8. Otogyps fulvus, *Tytler, Ibis*, 1868, p. 194.—The HIMALAYAN GRIFFON.

*Adult*.—Head, cheeks, chin, and throat closely covered with yellowish white filamentous feathers; nape, upper two-thirds of back, and sides of the neck covered with a similar coloured down; basal third of back and sides of neck bare, the front sparsely studded with star-like tufts of down. Crop patch whitish fawn. Ruff round the neck whitish, the feathers linear, lanceolate, about 3 inches long with filamentous webs. Upper back, shorter scapulars, and wing coverts (except the larger row) a nearly unichromatic pale brown, or whitey brown, many of the feathers inconspicuously paler centred. Lower back pure white, shading into pale creamy fawn colour on the rump and upper tail coverts. Longer scapulars and largest wing coverts deep umber brown, tipped broadly on the scapulars with fulvous fawn, and externally washed with ashy. Quills black, the secondaries brownish, the innermost inclining to fulvous towards the tip. Tail black, or a deep chocolate brown. Under surface, including wing lining and lower tail coverts white, or fulvous white, some of the feathers on the flanks with ill-defined paler centres. Bill very pale horny green, dusky at tip; cere pale brown; legs and feet dingy greenish grey or greyish white; claws pale brown.

*Length*.—46 to 49 inches (Hume), 42 inches (Sharpe); expanse 106 to 110; wing 28 to 31; tail 15 to 17, tarsus 4·25 to 4·8.

*Young*.—Entire plumage dark chocolate brown, with central streaks of paler brown, those on the ruff and under surface being lighter and more fulvescent, and consequently more distinct.

*Hab*.—Himalayas, Bhootan, Afghanistan, Nepal.

Breeds in January, February, and March. Mr. Hume says, the nest is a huge platform of sticks placed on a rocky ledge of some bold precipice in the Himalayas at least 3,000 feet above the sea. It lays a single egg, larger than that of any of the other Indian Vultures, oval, or a broad oval, the ground colour being of the usual greenish or greyish white of all the true Vultures, unspotted or richly blotched and mottled chiefly towards the small end with brownish red. Size  $3\cdot78 \times 2\cdot8$  inches to  $3\cdot98 \times 2\cdot85$  inches.



**4. *Gyps indicus*, Blyth, Cat. B. Mus. As. Soc. Beng. p. 33, 1849; Jerd. B. Ind. i. p. 9, No. 4; Gray, Cat. Mam. and B. Hodgson, p. 16; Sharpe, Cat. Acc. Br. M. p. 10; Hume, Stray F. vii. 165. *Gyps tenuirostris*, Hodgs.; Scully, Stray F. viii. 219.—THE LONG-BILLED VULTURE.**

*Adult*.—Head bare, also the nape, neck, cheeks, and throat, but very thinly sprinkled with brownish white hair-like feathers; ruff and upper surface of body dark brown, the feathers mesially streaked with fulvous; the wing coverts slightly paler with the streaks more distinct. Lower back and

rump creamy white, the feathers washed with brown on their edges. Quills and tail black or deep chocolate brown. Crop patch brown. Under surface of body light brown, the feathers broadly streaked with creamy white; abdomen and under tail coverts slightly paler. Under wing coverts whitish, the marginal ones dark brown with pale shaft stripes. Bill dark horn brown, yellowish on culmen and towards tip. Irides brown.

*Length*.—36 to 40 inches; wing 24; tail 11; tarsus 4·5; bill from gape 2·85.

*Hab*.—The Indian Peninsula, Burmah, Nepal, Siam and the Malayan Peninsula. Ajmere and Mount Aboo are places where this species has been known to breed from December to March on inaccessible and precipitous cliffs. Eggs vary in length from 3·48 to 3·9 inches in length and from 2·62 to 2·85 in breadth, larger than those of *G. Bengalensis*; texture finer, as a rule unspotted pale greyish or greenish white, thinly spotted or blotched with pale reddish brown and purplish brown.

**5. *Gyps pallescens***, *Hume, Stray F.* i. p. 150; *id.* vol. iii. p. 442; *id.* vol. ii. p. 325, vol. ix. p. 369; *Swinhoe and Barnes, B. of Central India, Ibis*, vol. 1885, p. 54; *Barnes, Birds of Bombay*, p. 5. *Gyps indicus*, *Hume, Rough Notes*, i. p. 21.—THE LONG-BILLED PALE BROWN VULTURE.

*Adult*.—Head, nape, cheeks, and throat bare, but sprinkled with brownish white hair-like feathers; lower half of the back and sides of the neck bare. Crop patch covered with silky dark brown feathers; ruff composed of soft, white, much disintegrated feathers. Mantle pale earthy brown, the centres of the lesser and all but the tips and margins of the larger scapulars dark hair brown. The whole of the lower surface of the body pale whitey brown, vent and lower tail coverts nearly pure white. Lower back, rump, and upper tail coverts white, tinged with pale earthy brown. Some of the longer tail coverts brown at the base. Primaries and tail feathers deep chocolate brown; secondaries and tertiaries hair brown, more or less suffused on their outer webs with pale dingy earthy or fulvous brown.

A quite young bird, has the top and back of the head and upper part of the back of the neck thickly covered with white down, rest of the head and neck as in the adult; crop patch covered with pale dove-coloured brown feathers, lower surface pale brown, albescent towards the vent, each feather broadly centred with dingy white, sides and breast the same; ruff feathers long, lanceolate, pale fulvous white, faintly margined with brown; mantle pale hair brown, the feathers with fulvous white centres mesially. Primaries chocolate brown; tail feathers the same; rump and upper tail coverts white, in some specimens very slightly tinged with brown. *Rectrices of 14 feathers*.

*Adult*.—Length 36 to 39 inches; expanse 85 to 90; wing 23 to 25·5; tail from vent 10 to 11; tarsus 3·5 to 4; bill from gape 2·65 to 2·95. Bill and cere pale greenish yellow, horny on culmen; irides brown; legs and feet dusky plumbeous. (*Hume, Rough Notes*.)

*Hab*.—Sind, Kutch, Jodhpur, Kattiawar, Northern Guzerat, Mount Aboo, the Concan, Deccan, the Southern Mahratta country, and Central India.

Gen. **Pseudogyps**.—*Sharpe*.

Tarsus shorter than middle toe. Tail of 12 feathers.

**6. *Pseudogyps bengalensis***, *Sharpe*, *Ann. Nat. Hist.* (4) xi., p. 133; *Cat. Acc. Br. Mus.*, p. 11. *Gyps bengalensis*, *G. R. Gray*, *Gen. of B.* i. p. 6; *Ferd. B. of Ind.* vol. i. p. 90; *Hume*, *Str. F.* vol. v. p. 245; *Murray*, *Hdbk., Zool. &c., Sind*, p. 104; *Gidh.*; Hind and Sind.—THE BENGAL OR COMMON BROWN VULTURE.

*Adult*.—Cinereous black above, beneath dark brown, the shafts narrowly streaked with fulvous. Lower back and rump white. Ruff scanty, whitish. Head and neck bare with a few dull brown bristles on the crown and nape. Quills, tail, and crop patch black. Under wing coverts white. Cere horny black; legs dusky black; iris red brown.

*Length*.—30 to 35 inches; wing 23 to 23.5; tail 10 to 11; tarsus 4.2; culmen 3.1.

*Hab*.—Throughout India. It is a permanent resident in Sind, and breeds from November to February or later, laying ordinarily one or two glossless white eggs, at times with rusty markings at the larger end.

Gen. **Otogyps**.—*Gray*.

Tarsus longer than middle toe; head and neck bare, with fleshy folds and a neck lappet or wattle of skin.



**7. *Otogyps calvus***, *G. R. Gray, Gen. B.* i. p. 4; *Jerd. B. of Ind.* vol. i. p. 7, No. 2; *Hume, Str. F.* vol. viii. p. 370; *Sharpe, Cat. Acc. Br. Mus.* p. 14; *Murray, Hdbk. Zool. &c. Sind*; *Murray, Vert. Zool. Sind*, p. 62. *Vultur calvus*, *Scorp. Del. Faun. et Flor. Insbur.* vol. ii. p. 85. *V. pondicerianus*, *Lath. Ind. Orn.* i. p. 7; *Ran-Gidh, Bhaoura*, Hind.; *Wudda Gidh*, Sind.—**THE BLACK VULTURE.**

*Adult*.—Glossy black, inclining to brown on lower back and rump, some of the scapulars also washed with brown. Quills black, the shafts white, becoming brownish towards the tips. Secondaries whitey brown, blackish towards their tips. Tail black, shaded with brown, the shafts brownish. Crop patch black. A circle of white down across the breast, and a patch of white above the thigh joint. Under parts of body deep black. Inner face of thighs bare. A small black ruff round the neck, the feathers impending and partially concealing the bare patches on each side of the breast. Bill black; legs dull red; iris reddish brown.

*Length*.—31 to 33 inches; culmen 2·5; wing 24·5; tail 10 to 11; tarsus 4·1.

*Hab*.—This is spread nearly all over the continent of India and not unlike *V. monachus* affects the hilly districts in Sind. It is a permanent resident wherever it occurs. Nest varies from 2½ to 4 feet in length and breadth, with usually a lining of leaves. It lays a single egg, pale greenish white, spotted or unspotted with purplish; generally a round oval, varying in size from 3·2 inches to 3·5 in length, and from 2·45 to 2·8 inches in breadth. It is said to breed on inaccessible cliffs from January to April.

### **Sub-Family—NEOPHIRONINÆ, SCAVENGERS.**

Bill lengthened, slender; nostrils longitudinal, nearly in the middle of the bill, perforated, and without bony septum.

#### **Gen. *Neophron*.—*Savignv.***

Characters, same as those of the family.

**8. *Neophron ginginianus***, *Lath. Ind. Orn.* i. p. 7; *Blyth, Ind.* 1866; *Jerd. B. of Ind.* i. p. 12, No. 6; *Sharpe, Cat. Acc. Br. Mus.* p. 18; *Hume, Str. F.* vol. i. p. 150; *Rough Notes*, i. p. 39; *Murray, Hdbk. Zool. &c. Sind*, p. 105; *id. Vert. Zool., Sind*, p. 64.—**THE WHITE SCAVENGER VULTURE OF PHARAOH'S HEN OF BRUCE.**

*Adult*.—Yellowish or creamy white. Quills black, neck hackles long, lanceolate, tinged somewhat rusty; secondaries dark brown and, like the quills, internally ashy white at base. Head bare, throat with a little scanty down; a few white feathers in front of the eye. Irides reddish brown; cere

and face turmeric yellow; bill pale horny brown; feet and legs yellowish white.

*Length*.—21 to 22 inches; wing 15·5 (not reaching the tip of the tail); tail 9·5; tarsus 3·4; culmen 2·9.

*Hab.*—Throughout India and a permanent resident. Breeds from February to April on cliffs, old mosques, &c., seldom on trees, making a rude nest of twigs, lined with rags, &c. Eggs variously coloured, the ground colour usually a dirty white, blotched and smeared with reddish brown, or marked all over with deep red, with blotches at the larger end.

### Family—FALCONIDÆ, FALCONS.

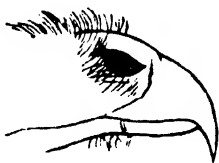
Bill usually short and compressed; tip elongated, curved and sharp. Commissure of upper mandible distinctly toothed or festooned. Head always covered with true feathers.

### Sub-Family—BUTEONINÆ.

Bill small, moderate, tip hooked. Wings moderate; tail generally short; tarsus with scutæ in front and behind; tibia longer than tarsus. Outer toe connected to middle toe by interdigital membrane.

### Gen. *Circus*.—*Lacep.*

Upper mandible slightly festooned; lower emarginate. Nostrils round, with no bony excrescence. Tarsi long and slender, naked; wings long; the first quill not so long as the fifth, the third and fourth longest; cere large, surrounded with a ruff of setaceous curved plumes.



**9. *Circus cyaneus*, Linn. *Sys. Nat.* i. p. 126; *Farrell, Br. B.* i. p. 94; *Sharpe, Cat. Acc.* p. 52; *Boie, Isis*, 1822; *Gould, B. Eur.* i. pl. 33; *Ferd. B. Ind.* i. p. 95; *Gould, B. Gt. Br.* 1867; *Hume, Rough Notes*, ii. p. 93, No. 50; *Str. F.* i. p. 160, 418; *Reid, Cat. B. Prov. Mus. N. W. P. and Oudh.*—THE HEN HARRIER.**

*Adult Male.*—Upper parts, chin, throat, cheeks, ear-coverts, sides of the neck, and breast bluish ashy paler on the wing coverts and tail, the former also slightly margined with whitish and the scapulars slightly tinged with fuscous. Frontal plumes and lores whitish; feathers of the nape pure white. Forehead and supercilium whitish. 1st 6 primaries blackish both above and below, the outer webs, towards the tips, more or less suffused with silvery grey; the inner

webs white at the bases. Secondaries silvery grey on the outer webs and tips, with black shafts and an indistinct subterminal band. Tail ashy grey, tipped with white, the middle tail feathers entirely uniform pale ashy grey, white-shafted, the lateral ones becoming less grey and white on the inner webs, with from 6 to 8 imperfect, and sometimes almost obsolete transverse ashy bars. *Upper tail coverts white. Under surface from below the breast, including the thighs, the axillary plumes, and under wing coverts white*, (in the adolescent stage slightly suffused with very pale bluish grey). Cere yellow; bill bluish black; irides yellow; legs and feet bright yellow; claws black.

*Length*.—17 to 19 inches; wing 12·2 to 13·8; tail 8·1 to 9·0; tarsus 2·5 to 2·9; bill from gape 1·16.

*Young Male*.—Above brown; bright rufous on the head and neck. Upper tail coverts white with rufous brown mesial lanceolate streaks. Tail tawny, fulvous at tip, with four broad black cross bands. Young females with rufous cross bars on the tail.

*Adult Female*.—Crown of the head, hind neck, and nape reddish fawn or pale tawny fulvous, the feathers broadly streaked mesially with dark brown. Forehead, a narrow supercilium, lores, and cheeks, and a streak over the ear coverts fulvous white; basal two-thirds of feathers of the nape white; ear coverts and cheeks rufous, streaked with brown. Quills brown, tipped with whitish, and with 3—5 dark brown transverse bars on the inner webs. *2nd, 3rd, 4th, and 5th primaries emarginated on the outer web*. Scapulars, interscapulary region, lower back and rump, also wing coverts brown, spotted with large oval tawny buff marks. Upper tail coverts pure white with sometimes lanceolate rufous brown spots on the shafts. Tail white at the extreme base, the central feathers grey brown, narrowly tipped with white or rufescent white, and crossed with 4—5 broad transverse bars of darker brown; lateral tail feathers similar but with broader white tips, and the interspaces on the outer webs creamy buff, the outermost tinged with rufous; sides of neck and under surface of body yellowish white, brown-shafted, and with more or less conspicuous ovate rufous-brown spots. Irides reddish brown.

*Length*.—19·5 to 21·6 inches; wing 14·5 to 15·6; tail 10 to 10·9; tarsus 3·1 to 3·17.

*Hab*.—Throughout Europe. Occurs also in all countries bordering the Mediterranean and extending in winter to N. India (Sharpe). In India the Hen Harrier is common about the outer ranges of the Himalayas; from Abbottabad to Kumaon, in the Punjab; Sind, N.-W. Provinces, and Oudh, also the Central Provinces. It has been obtained in Meerut, Bareilly, Etawah, Saugor, Nagpoor, Chanda, and Goona (Hume); also in Beloochistan, S. Afghanistan, Nepal, Eastern Turkestan, and Gilgit.

This species is not known to breed in India. Dr. Scully in his contribution to the Ornithology of Eastern Turkestan says it is a permanent resident in the



plains of Kashgaria and breeds there. The nest, he says, is placed in long grass jungle; and adds that he often observed the bird sailing low over rush-grown marshes and bare fields with a wonderfully long sustained flight. It never seems to tire and always appears keenly intent on looking for its prey, every now and then suddenly dropping down among the reeds as if shot, but soon rising again to resume its hunting. He does not however give any particulars of its nidification, except as to the position of the nest. In Europe it is said to be placed on the ground and the materials used are small sticks and coarse grass. Eggs 4—5; in colour pale white or skimmed milk-blue;  $1\frac{6}{7} \times 1\frac{3}{33}$  inches.

**10. *Circus melanoleucos*, Forst. Ind. Zool. p. 12, pl. 11; Vicill, N. Dict. d' Hist. Nat. vi. p. 465; Jerd. B. Ind. i. p. 98, No. 53; Sharpe, Cat. Acc. B. M. p. 61; Stray F. i. p. 98; id. iii. p. 33; vi. p. 11; id. vii. p. 250; Hume, Rough Notes, ii. p. 307; Holdsw. P. Z. S. 1872, p. 414.**—The **PIED HARRIER**.

*Adult Male*.—The whole head, chin, throat, neck all round, upper breast, nearly two-thirds of the back, scapulars (except the undermost one or two), primaries, and a broad band across the wing black. Wing coverts silvery grey, often broadly tipped with brown. Primary coverts and secondaries silvery grey, except the innermost which are black. Lower portion of back, rump, and upper tail coverts white, the latter with two or three broad cross bars of black or ashy grey. Tail pale, silvery dove colour or silvery grey, narrowly tipped with white; below and the inner webs also broadly margined with white. Under surface from lower breast, including wing lining and axillaries, pure white. Bill and cere black. Irides and feet yellow.

*Length*.—16 to 17·15 inches; wing 13·70 to 14·4; tail 8·5 to 10; tarsus 2·98 to 3·13; culmen 1.

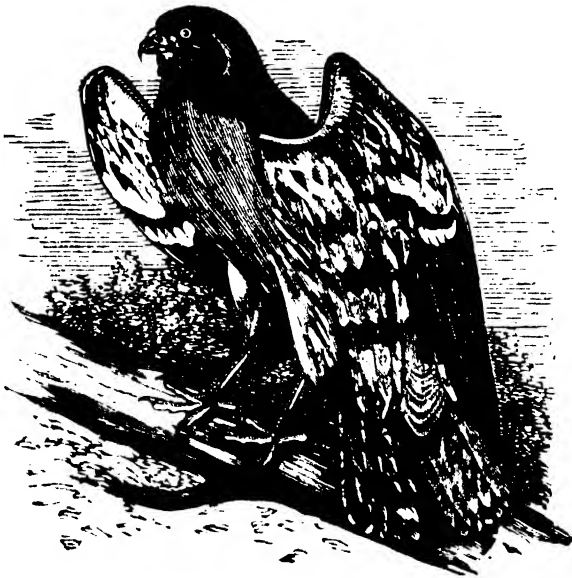
The young male as described by Mr. Hume has the whole head, neck, and back of neck clove brown, each feather broadly margined with pale rufous. Upper back and scapulars uniform clove brown; lower back and wings of a slightly lighter shade. Some of the longest feathers of the back with two obscure, terminal, rufous spots, one on each web; edge of the wing rufous white and many of the lesser coverts faintly or boldly margined with fulvous or rufescent. Upper tail coverts pure white, dark shafted, and with a conspicuous oval, rufous brown subterminal spot. Tail feathers a somewhat greyish pale-brown, narrowly tipped with fulvous white and with broad, rather dark brown transverse bars. Lower parts buffy or rufous white, with central rufous brown stripes, broad on the lower breast and abdomen, almost obsolete on the chin and the thigh coverts. Inner webs of primaries pale rufous white, barred with darker brown, the bars wider and more conspicuous on the under surface. Wing lining rufous buff; axillaries the same, with darker shafts and two or more broad, irre-

gular transverse red brown bars. Winglet, greater primary coverts, and bases of the outer webs of the later primaries grey, with broad transverse brown bars.

The adult female is larger than the male and has a slatey grey wash on the back. Wing 15·4; tail 10; tarsus 3·13 inches.

*Hab.*—Mr. Sharpe gives Eastern Asia, eastern side of the Indian Peninsula and Burma, northwards to Mongolia, Amoor land and Northern China. It occurs in Ceylon, Nepal, Burma, Assam, and Eastern Bengal generally. (extending westward to Mirzapoor), also almost throughout the Himalayas, from the valley of the Burhampooter to Afghanistan. It has been noted from Bengal, Rajputana, Central India, the Central Provinces, the Concan, Deccan, South India, British Burma, and Nepal.

Nothing is known of the nidification of this species. Dr. Jerdon however remarks in his appendix, that he has every reason to believe it breeds in Northern India.



**11. *Circus pygargus*, Linn.**—*S. N.* i, p. 48; *Sharpe, Cat. Acc. B. M.* p. 64. *Circus cineraceus*, *Cuv. Regne. An.* i, p. 338; *Jerdon, B. of India.* i, p. 97, No. 52; *Hume, Rough Notes.* ii, p. 303; *Shelley, B. Egypt.* p. 184; *Murray, Hdbk. Zool. Sc. Sind*; *id. Vert. Zool. Sind.* p. 88.—MONTAGUE'S HARRIER.

*Adult Male*.—Above blue grey ; throat, breast, and wing coverts darker, the latter slightly mottled, and with a terminal spot of a dark ash colour. Primary coverts and secondaries silvery grey, tipped with white, and with two bands of black, one of which is hidden by the greater wing coverts. Primaries black, the inner ones greyish at the tips and on the inner web. Secondaries grey with a black band. Tail grey or greyish white, the two outer feathers banded on their inner webs with rufous, the others dusky, with fine ashy black bands. Upper tail coverts white, shading into ashy grey. Lores whitish. *Abdomen, flanks, thighs, and under wing coverts white, streaked with fawn* ; the axillaries with spots of the same colour. Cere greenish yellow. Feet and irides yellow.

*Length*.—18 inches ; wing 14 to 15 ; tail 9·5 ; tarsus 2·3.

The adult female differs from the male in being nearly uniform brown with scarcely any fulvous margins to the feathers. The hind head and neck are streaked with fulvous, as also the sides of the neck and facial ruff. Feathers under the eye whitish. *Outer margin of 5th primary entire ; notch in second primary, an inch or more distant from tip of coverts*. Upper tail coverts white ; tail brown, tipped with paler brown and banded with five bars of darker brown. Under surface of body buffy white, the feathers with rufous centres ; legs yellow ; irides hazel.

*Length*.—19 to 19·5 inches ; wing 15·3 ; tail 8·7 ; tarsus 1·4 ; culmen 1·1 to 1·2.

*Hab*.—In India it has been found in Sind, Punjab, N. W. Provinces, Oudh, Bengal, Rajpootana, Central India, the Central Provinces, Kutch, Behar, Guzerat, the Concans, Deccan, South India, and British Burmah. Occurs also in Ceylon, Beloochistan, Afghanistan, and Nepaul. Sharpe gives its distribution as Europe generally, ranging in winter through Palestine and along the Nile to Abyssinia and South Africa, India, and Ceylon.

It is, like the last, a winter visitant to India generally. Like the last, it flies low, skimming along the surface of the ground in search of prey. It frequents open jungle and cultivated fields, preying on birds, reptiles, insects, &c. It has not been known to breed in India. In England it is said to make its nest on the ground, generally among furze. The eggs are white, sometimes faintly spotted 1·58 × 1·33 inches, and seldom above four in number.

**12. *Circus macrurus***, S. G. Gmel. *N. Comm. Petrop.* xv. p. 439 ; Sharpe, *Cat. Acc. B. M.* p. 67 ; Murray, *Hdbk. Zool. &c. Sind*, p. 115. *Circus swainsonii*, Smith, *S. Afr. Q. Journ.* i. p. 384 ; Gray, *Gen. B.* i. p. 32 ; *Ierd. Birds of Ind.* p. 96, No. 51 ; Hume, *Rough Notes*, ii. p. 298. *Circus pallidus*, Sykes, *P. Z. S.* 1832, p. 80 ; Shelley, *B. Egypt*, p. 183 ; Hume, *S. F.* i. p. 160 ; Murray, *Vert. Zool. Sind*, p. 88 ; Reid, *Cat. B. Mus. N. W. P. and Oudh*.—The PALE HARRIER.

*Adult Male*.—Above pale bluish grey, scapulars slightly darker; eyebrow and sides of face white; under surface of body greyish white. Quills blackish brown; the secondaries ashy grey, tipped with white, and the primaries washed with ashy grey, white at base of inner web; other quills white underneath. *Upper tail coverts white, banded with ashy grey.* Tail feathers—except the two middle ones, which are uniform ashy grey—banded grey and white; the tips and under surface of all the feathers white. Bill black; feet and irides yellow.

*Length*.—17·5 to 18·5 inches; culmen 1·15; wing 13·5 to 14; tail 8·8 to 9·5; tarsus 2·75.

*Adult Female*.—Above brown, the feathers of the head and hind neck streaked, and of the upper surface and lesser wing coverts margined and tipped with rufous. Forehead, supercilium, and a spot below the eye white. Cheeks and ear coverts dark brown, slightly streaked with tawny. Quills dusky brown, the primaries externally shaded with ashy grey, and like the secondaries obsoletely barred darker and tipped with buffy white. *Outer margin of 5th primary entire; notch in second primary nearly or quite hidden by coverts;* upper tail coverts white, banded or spotted with dark brown. Tail with the two centre feathers ashy brown and with six blackish brown bands, the rest with four bands, those on the outer feathers being pale rufous. Under tail coverts rufescent. Under wing coverts buffy white, spotted and streaked with brown. Cere greenish yellow; feet yellow; irides brownish.

The young, in the livery of which Mr. Hume says he has numerous specimens, is shortly described by Mr. Sharpe as being brown, like the old female, but not so much variegated above, with tawny margins to the feathers; under surface entirely pale fawn colour (rufous buff—*Hume*), the facial ruff of this same colour, and therefore contrasting in marked prominence with the dark brown cheeks and ear coverts, the flank feathers and axillaries with indistinct brown central streaks; frontal feathers, superciliary streak and spot under the eye whitish; upper tail coverts white, spotted with pale rufous; tail much as in the female, but the dark bars only five in number.

*Length*.—20·5 to 21 inches; wing 14 to 14·5; tail 10 to 10·5; tarsus 2·8 to 3.

*Hab*.—Europe, Africa, and throughout India, Ceylon, China, and Burmah. Has been noted from the N.-W. and Central Provinces, Punjab, Sindh, Beloochistan, Afghanistan, Persia, Mesopotamia, S. India, Kutch, the Concans and Deccan, Kattiawar, Behar, Nepaul. In India it is a winter visitant, arriving about the middle of September and leaving again in March.

Nothing is known of its nidification anywhere in India, no birds having ever been seen in India after March or the middle of April.

**13. *Circus æruginosus*.** *Linn. S. N.* i. p. 130; *Savigny, Syst. Ois. Egypt*, p. 90; *Hume, Rough Notes*, p. 314; *Shelley, Birds Egypt*, p. 181; *Ferd. Birds of Ind.* p. 99, No. 54; *Sharpe, Cat. Acc. B. M.* p. 69; *Murray, Hdbk. Zool., &c., Sind*, p. 116; *Hume, S. F. i.* p. 100; *Murray, Vert. Zool., Sind*, p. 89; *Reid, Cat. B. Mus. N.W. P. and Oudh*.—The MARSH HARRIER.

*Adult Male*.—Above dark brown, the feathers of the upper surface edged with rufous; the smaller wing coverts buffy and centred brown; primary coverts and secondaries bluish ashy, tipped very slightly with pale white. Primaries blackish brown, paler at the tips, whitish at base of inner web. Upper tail coverts greyish white and tinged with rufous. Tail bluish ash or uniform grey, slightly fulvescent beneath. Head, neck, and breast pale rufous or creamy buff, with dark brown streaks; under parts reddish brown or pale rufous, as also are the thigh coverts, the latter in some spotted or margined with white; under wing coverts buffy white, the axillaries with brown shaft stripes. Cere greenish yellow; legs and irides yellow; claws black.

*Length*.—19 to 22·5 inches; wing 16; tail 9 to 10; tarsus 3·25; culmen 1·55.

*Adult Female*.—Larger; length 23 inches; wing 17; tail 10 to 11; tarsus 3·8.

The young bird is uniform reddish brown, the head, neck, and cheeks in some stages being yellowish, rufous white, or white with brown stripes on the crown; upper tail coverts rufous brown.

*Hab*.—Europe generally, China, Japan, N. E. and S. Africa, and throughout India, Burmah, and Ceylon. In Sind and the Punjab it occurs in great numbers, frequenting the maritime districts, rivers, marshes, lakes, and inundated fields, feeding on rats, mice, frogs, fish, &c. It occurs also in the N.-W. Provinces, Oudh, Bengal, Rajpootana, Kutch, Kattiawar, Jodhpore, North Guzerat, Central and Southern India, the Deccan and Concans, and in fact throughout India; also in Beloochistan, Persia, Mesopotamia, Afghanistan, Eastern Turkestan, Gilgit, Nepaul, Malacca, and Upper Pegu.

#### Gen. **Astur**.—*Gm.*

Bill broad at base, compressed to tip, festooned in the middle. Nostrils oval, situated anteriorly in the cere. Wings long; 3rd, 4th, and 5th quills longest. Tarsi long, scutate.

**14. *Astur palumbarius*,** *Linn. S. N.* i. p. 130; *Temm. Man. d'Orn.* i. p. 55; *Yarr. B. Birds*, i. p. 57; *Cuv. Regn. An.* i. p. 320; *Gray, Gen. B.* i. p. 27; *Ferd. B. Ind.* i. p. 45, No. 21; *Hume, Rough Notes*, i. p. 112; *Ferd. Ibis*, 1871, p. 243; *Sharpe, Cat. Acc. Br. Mus.* vol. i. p. 95.—The GOSHAWK.

#### PLATE.

Crown of the head, ear coverts and sides of neck dark brownish black; hind neck slightly mottled with white; lores, cheeks, and supercilium white.





spotted with blackish. Chin and throat white streaked with dusky; breast greyish white, transversely waved with small bars of greyish black; rest of the under surface white covered with transverse bars of greyish or ashy brown; under tail coverts white; upper tail coverts and back dark bluish grey tinged with brown. Tail ashy brown, tipped with white and with four broad transverse bands of dark brown. Primaries brown, barred with darker brown; shafts reddish, the inner webs whitish towards the base; lower surface of the wing ashy grey; secondaries, tertiaries, and the greater and lesser wing coverts as the back; under wing coverts barred transversely with dusky. Cere yellow; bill bluish horn; irides bright yellow; legs and feet yellow; claws black.

*Length*.—18 to 19·5 inches; culmen 1·5; wing 12·2 to 12·5; expanse 43 to 45 inches; tail 9·0; tarsus 3·0.

*Adult Female*.—Similar to the male, but a little larger, and the back is of a browner tint, except in very old birds when there is scarcely any difference between them.

*Length*.—22 to 23 inches; wing 14; tarsus 3·4.

*Hab*.—Europe generally, wintering in E. Turkestan, Algeria, Palestine, Egypt, the Himalayas, and Northern China. In India it has been found in the Punjab and in the forests of Gurhwal in the N.-W. Provinces. Hodgson has collected specimens in Nepal. Mr. Hume says that Dr. Jerdon mentioned to him that it is occasionally taken in the plains of the Punjab during winter, and adds that he saw a pair in July that evidently had their nest in a wood in the Asrang Valley above Chini about 12,000 feet. Nothing certain is known of its breeding in India. Mr. Hume (*Rough Notes*) says, it breeds so far as he has been able to ascertain only in the higher regions of the Himalayas. He says a pair of young birds were brought to him late in July from near the Chor and the shikari asserted that he had taken them from a nest. Mr. Thomson too tells him that they breed from March to June, building on trees and laying 3—4 nearly pure white eggs, confining themselves to the interior of the deep precipitous valleys lying close to the snowy peak.

**15. *Astur trivirgatus*, Tem. Pl. Col. i. pl. 303; Cuv. Regne An. p. 332; Jerd. B. Ind. i. p. 47, No. 22; Wallace, Ibis, 1868, p. 6; Sharpe, Cat. Acc. B. M. p. 95. *Astur palumbarius*, Jerd. Madras Journal, p. 85. *Lophospizia trivirgatus*, Kaup. Contr. Orn. 1850, p. 65; Hume, Rough Notes, p. 116; Stray F. v. p. 8, 502.**—The CRESTED GOSHAWK.

*Adult Male*.—Above slatey grey, the upper tail coverts blackish and tipped with white. Head and neck clearer slatey grey, including a conspicuous occipital crest, the sides of the neck somewhat tinged with rufous; quills browner than the back; primaries with rufescent shafts, barred above with dark brown,



much plainer underneath where the quills are white at the base of the inner web. Tail ashy brown, paler at tip, crossed with four bands of dark brown; throat white with a distinct black moustachial streak on each side and a broad medial line; chest clear tawny rufous; rest of under surface white, broadly banded with pale rufous, each bar of this colour having a conterminous brown bar; the thighs thickly barred with ashy brown without any rufous tinge. Under tail coverts white; under wing coverts white, spotted with brown or rufous brown; axillaries similarly barred. Bill black, plumbeous at base. Cere orange yellow. Cheeks and orbits orange; feet yellow; irides orange yellow.

*Length*.—♂ 4 to 46 inches; wing 7·8 to 8·5; tail 6·3 to 7; tarsus 2·1 to 2·2.

*Adult Female*.—Much larger. Length 17·5 to 18 inches; wing 9·5 to 9·7; tail 8·0; tarsus 2·5 to 2·7.

*Young*.—Brown above, with a fully developed occipital crest. Upper tail coverts banded with darker brown and tipped with white. Tail with five cross bands of darker brown. Under surface of body white, throat as in the adult; breast broadly streaked with pale rufous or dark brown; lower breast, thighs, and abdomen barred with pale rufous, darker on the thighs; under tail coverts white, with a few narrow rather indistinct cross bars; under wing coverts buff, spotted and barred with dark brown.

*Hab*.—Southern India and Ceylon, Assam, Burmah, Java, Borneo, Sumatra, and the Phillipine Islands. Nothing is known of its nidification in India. The larger Nepalese race is provisionally separated by Mr. Sharpe as *A. indicus*.

**16. *Astur badius*, Kaup, Isis, 1847; Sharpe, Cat. Acc. Br. Mus. p. 109, (Sub-Sp. A.).** *Micronisus badius*, *Bp. Consp.* i. p. 33; *Jerd. B. Ind.* i. p. 48, No. 23; *Blyth, Ibis*, 1863; *Hume, Rough Notes*, p. 117; *Murray, Hdbk. Zool., &c., Sind*; *id. Vert. Zool. Sind*, p. 108. *Accipiter badius*, *Strickl. Ann. Mag. N. H.* xiii. p. 33.—The SHIKRA or BROWN HAWK.

*Young*.—Head, nape, neck behind, back, scapulars, wing and upper tail coverts ashy, dusky, or pale earthy brown, the feathers on the head slightly darker, and all edged with pale rufous, the feathers of the neck with their white bases showing through. Lores and eyebrow white; sides of the face and ear coverts pale brown, tinged with rufescent and mesially streaked with darker; chin and throat white, with a mesial dark brown throat stripe; breast and abdomen whitish with large longitudinal drops—oval on the upper breast—of a pale rufous colour. Vent and under tail coverts white; under wing coverts buff, streaked and barred with dark brown; thigh coverts also barred. Primaries brown, their inner webs buffy, and barred with dark brown; secondaries brown, barred darker on both webs and margined and tipped with buffy. Tail ashy brown with 5—6 broad dark brown bands; narrower and about nine

on the outermost feathers, the interspaces and tips of all buffy white. Cere yellow; bill dusky with a bluish tinge. Iris pale yellow; feet yellow.

In the adult plumage the upper parts are bluish grey; the nape is mottled with white, and the white bases of the scapular feathers show through in some specimens; the primaries are dusky black, with their inner webs of a buff colour and barred darker brown, nearly black; the secondaries are bluish grey and also barred. The tail is ashy grey, and tipped with white, the bars on the lateral tail feathers 9—11 in number, and of a dark brown colour. The throat stripe is less distinct than in the young, and the entire lower surface is barred with white and rufescent brown. The abdomen, thighs, and under tail coverts unspotted white; rest as in the young. The adult female is like the male but larger.

*Length*.—Adult male 13·5 inches; wing 7·9; tail 6·3; tarsus 2.

*Adult Female*.—Length 14·5; wing 8·3; tail 6·4; tarsus 2·15.

*Hab*.—The Indian Peninsula generally, and Ceylon, extending to Assam and Burmah, and also to Beloochistan, Persia, and Afghanistan. Occurs in Oudh, Bengal, Central Provinces, Rajpootana, Central India, Kutch, Kattiawar, Guzerat, Concan, Deccan, and Southern India. Breeds in April and May in Sind, Punjab, and N.-W. Provinces on large lofty trees on the edges of streams or lakes, laying usually three or four eggs, oval or pyriform in shape, smooth, fine, glossless shells of a pure, delicate bluish white, as a rule without markings or at most thinly sprinkled all over with very faint greyish specks and spots. In size the eggs vary from 1·5 to 1·63 inches in length and from 1·2 to 1·26 in breadth. It is commonly trained by natives, being easily reclaimed and expert in striking a quarry.

**17. Astur poliopsis.** *Hume, Stray Feathers*, vol. ii. p. 325 (1874); *id.* vol. iii. p. 24; *id.* *Hume and Davison, Birds of Tenasserim*, vol. vi. p. 7; *Sharpe, Cat. Acc. Br. Mus. Sub.-Sp. B.* vol. i. p. 110. *Micronisus badius*. *Sel. Ibis*, 1864, p. 246; *Swinhoe, Ibis*, 1870, p. 84; *id.* *P. Z. S.* 1871, p. 411.—**THE GREY-FACED SHIKRA.**

*Adult*.—Very similar to *A. badius* which it replaces to the eastward of Bengal. Much paler blue above and below, banded with broader and brighter vinous bands than its near ally; wanting the nuchal rufescent collar and the central throat stripe and with the cheeks and ear coverts unicolorous with the crown. Legs and feet yellow; claws black; base of upper and lower mandible, except tips, plumbeous; rest of bill black; cere greenish yellow.

*Length*.—11 inches; culmen 6·7; wing 7·3; tail 6·1; tarsus 1·95.

In the *Birds of Tenasserim* Hume and Davison give the following measurements:—

	Length.	Expanse.	Tail.	Wing	Tarsus.	Bill from gape
Males.	12·0 to 12·75	24·0 to 26·0	5·9 to 6·62	7·3 to 8·12	1·0 to 2·0	0·8 to 0·85
Females.	13·9 to 14·62	26·75 to 28·37	6·7 to 7·37	8·3 to 9·0	1·8 to 2·25	0·9 to 1·0

*Hab.*—Tennaserim, Burmah, Siam, and Camboga; Formosa, Hainan (Hume and Sharpe). Occurs throughout Tennaserim, but Hume and Davison say it is nowhere common. The species is excessively shy, seldom allowing of even a moderately near approach. Feeds entirely on insects and small reptiles.

**18. *Astur soloensis*, Horsf. apud Lath, Gen. Hist. i. p. 209; Sharpe, Cat. Acc. Br. Mus. vol. i. p. 114; Str. F. vol. v. 124; id. vi. p. 8. *Dædalion soloensis*, Horsf. Tr. Linn. Socy. xiii. p. 137. *Micronisus soloensis*, Gray, Cat. Acc. B. M. p. 75; Wallace, Ibis, 1868, p. 12. *Nisus soloensis*, Schleg. Mus. P. B. Astures; Blyth, Ibis, 1863, p. 16.—The SOOLOO FALCON.**

The following is Sharpe's description of the adult plumage of this species:—The adult plumage appears to be gained by a gradual mersion of the rufous stripes on the breast. Above light bluish grey, some of the feathers margined with darker grey; sides of face and neck grey like the head but a little more dingy; under surface of the body pale buffy vinous, the throat, flanks, and thighs, as well as the under wing and tail coverts white with a slightly greyish shade on the sides of the breast; quills black, externally shaded with ashy grey; under surface white at base of inner web, but having no distinct bars above or below; tail dull bluish grey above, ashy white beneath, with four or five indistinct cross bands of dark brown, a little plainer underneath, but these not strictly continuous. Cere yellow; gape and orbits yellowish; bill black, lead colour at base; feet and irides yellow. Total length 11·8 inches; culmen 0·75; wing 7·9; tail 5·4; tarsus 1·9.

*Young.*—Above brown, with rufous edgings to the feathers, a little broader on the upper tail coverts; the sides of the neck washed with rufous, the nape mottled with white; crown blackish; an ill-defined eyebrow and fore part of the cheeks white, narrowly lined with blackish brown. Ear coverts brown, slightly washed with dull rufous; throat buffy white with a moustachial line on each side and a median streak of brown; rest of under surface buffy white, the chest broadly streaked and the breast and flanks barred with pale rufous. Under tail coverts white; under wing coverts clear buff, the lowest, spotted with blackish. Quills dark brown, slightly tipped with whitish very indistinctly barred above with darker brown; underneath buffy white at the base of the inner web, indistinctly barred with dark brown, visible only on the inner webs; tail ashy brown, whitish at tip, crossed with five bars of darker brown; the under surface whitish ashy, the cross bars more distinct, except on the outer web, where they are almost obsolete.

*Hab.*—Tennaserim (Malewoon, Mergui district), Java, Malacca, Sumatra, Phillippine Islands; Batchian, Celebes, New Guinea.

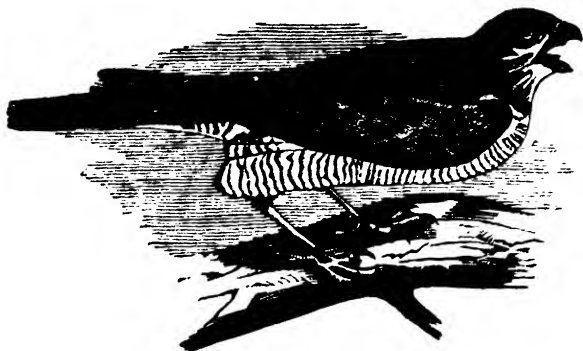


ASTUR SOLOENSIS



Gen. **Accipiter**.—*Briss.*

Bill short, much compressed, festooned. Nostrils oval, rather oblique, situated on the forepart of the cere, and partly hidden by setæ. Wings moderate, rounded, and with the 4th and 5th quills longest. Tarsi long.



**19. *Accipiter nisus*, Lin. Syst. Nat. i. p. 130; Pall. Zoogr. Rosso As. i. p. 370; Gray, Gen. B. i. p. 29; Jerd. B. Ind. i. p. 51, No. 24; Hume, Rough Notes, i. p. 124; Sharpe, Cat. Acc. Br. Mus. p. 132; Murray, Hdbk. Zool. &c., Sind, p. 110; id. Vert. Zool. Sind; (Basha, the female; Bashin, the male, Hind).—The EUROPEAN SPARROW-HAWK.**

*Young*.—Head, nape, neck behind, back, scapulars, and wing coverts dusky brown, darker on the upper back, the feathers margined with rufous, the occiput and nape with white mottlings, caused by the broad white bases of the feathers showing through. Lores and eyebrow white; chin and throat and sides of the neck white, the feathers with mesial dark streaks. Ear coverts the same. Rump and upper tail coverts like the back, the feathers with dark shafts and tipped rufous. Primaries and secondaries dusky brown, basally rufescent white on their inner webs and barred with dark brown. The tips of the secondaries rufous or rufescent white; inner web of the tertiaries subterminally white, and margined at the tips with pale rufous. Tail ashy brown above, greyish white on the under surface, tipped whitish and with five dark brown bands; breast, abdomen, flanks, and thigh coverts barred with rufous brown and white. Under tail coverts white. Under wing lining buff, with spots and transverse dark brown bars.

*Adult Male*.—Head, nape, hind neck, wing coverts, back, and scapulars slatey, with a bluish tinge, the nape mottled white, and some of the tertials basally white. Upper tail coverts and scapulars with indistinct dark shafts. Tail, like the back, tipped white, and with four dark brown bands. Primaries dark brown, their inner webs rufescent white, and crossed with darker brown, nearly black bars; secondaries slatey, also rufescent white on their inner webs and barred across with dark brown. Chin and throat white, with a rufous tinge:

breast, flanks, and abdomen barred with bright rufous and white. Thigh coverts the same. Under tail coverts white. Under wing coverts barred with rufous and dark brown. Bill horny or dark horn blue; cere, base of lower mandible, and legs yellow; iris orange.

*Length*.—13 inches; wing 8·15; tail 6·3; tarsus 2·3. Females larger and of a duller tint. *Length* 15·5; wing 9·3 to 9·5; tail 7; tarsus 2·5.

*Hab*.—The whole of Europe and Northern Asia, extending in winter into Algeria, N. E. Africa, the Indian Peninsula, and China (Sharpe). Occurs throughout Sind, Punjab, N.-W. Provinces, Oudh, and Bengal; also throughout the Western Presidency, in Rajpootana, Central India, Kutch, Guzerat, Concan, Deccan, Southern India, and in Beloochistan, Persia, Mesopotamia, and Afghanistan; also British Burmah, Upper Pegu, Tennaserim, and Nepal. Affects gardens and cultivation. It is much used for hawking, and is said to be easily tamed, and owing to its courage, a better bird than the Shikra for the quarry.

Mr. Hume in his "Rough Notes," p. 128, describes in detail the Dove-Hawk (*Accipiter melaschistos*) from Simla as a new species which Mr. Sharpe thinks is only a dark race of this species.

**20. *Accipiter virgatus***, *Temm. Pl. Col.* i. pl. 109; *Vig. Zool. Journ.* i. p. 338; *Gray, Gen. B.* i. p. 29; *Ferd. B. Ind.* i. p. 52, No. 25; *Hume, Rough Notes*, i. p. 132; *Ferd. Ibis*, 1871, p. 243; *Sharpe, Cat. Acc. Br. Mus.* vol. i. p. 150; *Stray F.* vol. ii, p. 141.—THE BESRA SPARROW-HAWK.

*Adult Male*.—Head and neck dusky black, sides of the neck washed with rufous, nape mottled with white; ear coverts and face light dusky, throat buffy white; wing coverts blackish slate colour. Quills dark brown, unbarred above; under surface ashy, pale rufous near the base of the inner web and barred with blackish. Tail ashy grey above, much paler below, with three transverse bands of slaty black. Abdomen and under tail coverts white, rest of under surface bright ferruginous or vinous chestnut, paler on the thighs; under wing coverts yellowish ochry; axillaries barred with brownish. Cere pale lemon yellow; bill black, plumbeous at base. Legs and feet pale orange yellow. Irides yellow.

*Length*.—11 to 11·25 inches; wing 6·5 to 6·6; tail 15·75 to 6·6; tarsus 1·9 to 2·2.

*Adult Female*.—A little larger than the male.

*Length*.—13 inches; wing 7·4 to 8; tarsus 1·9 to 2·2.

The plumage of the various stages of the young of this species is so very variable, that it is not possible to give a description which would suit, but the following from *Rough Notes* is the usual type of colouration of specimens from the Punjab, in the Kurrachee Museum. Head, nape, back, mantle, and

upper tail coverts dusky cyaneous, darkest on the head: Nape mottled with white. Tail slatey grey, brownish on lateral feathers, and with seven narrow transverse bars on the inner webs and four broad blackish bars on both webs of the other ten feathers. Sides of neck and coverts dusky, the latter with traces of rufous striæ. Chin and throat white with one central blackish stripe; a streak of white over the eye. Breast deep ferruginous at the sides, the central portion having the feathers a mixture of blackish, deep ferruginous and white. Sides, flanks, and upper abdomen ferruginous, imperfectly barred with white; lower abdomen white, barred with pale ferruginous. Tibial plumes white, closely barred with rusty grey; under tail coverts white.

*Hab.*—Throughout the Indian Peninsula nearly. Occurs in the Concan and Deccan. Rajpootana, in South and Central India; also in the Punjab, N.-W. and Central Provinces, the Himalayas, and S. Andamans. Mr. Wallace gives it from Malacca, Timor, and Java, and Dr. Jerdon says extends to Assam, Burmah, and Malayana. Mr. Thompson (*Rough Notes*) is confident that it breeds in the forests of Gurhwal from March to May, but nothing certain is known. It is caught wherever fairly numerous and much used by falconers for the quarry. It is said however to be a difficult bird to train, but when trained fetches a considerable price, being speedy and active, especially at partridges, quails, doves and snipe.

### Sub-Family—BUTEONINÆ.

Bill small, moderate, tip hooked. Wings moderate; tail generally short; tarsi with scutæ in front and behind; tibia longer than tarsus. Outer toe connected to middle toe by interdigital membrane.

#### Gen. *Buteo*.—*Cur.*

Bill short with hooked tip; margin of upper mandible slightly festooned; nostrils oval. Lores clothed with bristle-like feathers. Wings long; 3rd, 4th, and 5th quills sub-equal and longest; inner webs of 1st four quills strongly notched. Tarsus bare or feathered on the upper third only.

**21. *Buteo ferox*, S. G. Gmelin, *N. Comm. Ac. Petrop.* xv. p. 442; Hume, *Rough Notes*, ii. p. 274; *Stray Feathers*, iv. p. 362 (1873); Sharpe, *Cat. Acc.* p. 176. *Buteo canescens*, Hodgs. *Beng. Sport. Mag.* 1836, p. 180; *Jerd. B. of Ind.* p. 88, No. 45. *Buteo longipes*, *Jerd. Madr. Journ.* x. p. 75. *B. aquilinus*, Hodgs. *J. A. S. B.* xiv. p. 176; *Jerd. B. of Ind.* i. p. 90, No. 46.—The LONG-LEGGED BUZZARD.**

The plumage of this large and handsome Buzzard varies considerably in all its different stages. This circumstance has led to its being described as *canescens*, Hodgs; *longipes*, Jerdon; *rufinus*, Rupp.; *leucurus*, Naum.; and *fuliginosus*, Hume. Mr. Hume in his scrap book goes very minutely into the differences observed in the plumage of its various stages, and states at page 281, that "the great difficulty we meet with in assigning any chronological



value to these changes is that the changes on the upper surface do not correspond with those on the lower. It is easy enough, he says, to arrange any number of specimens, in what, looking at the upper or under surface only, appears a very perfect series in which no links are wanting, but directly we turn the specimens over, all traces of any arrangement seem to vanish." The question as to which is the adult plumage seems yet a vexed one, the Buzzard being known to breed in plumage which has been described as immature, but it is probable that the fuliginous plumage (*B. fuliginosus*) of Hume is that of very old birds, in which the whole head, neck, ear coverts, cheeks, throat, and breast is a deep umber brown, indistinctly margined with rufous.

*Male*.—Feathers of the forehead and crown of the head rufescent brown with stiff dark shafts. A narrow dark line in front of the superciliary edge of the eye. Lores whitish, with numerous elongated stiff bristle-like feathers which extend to the base of the cere, partially cover the nostrils and turn up on to the front of the forehead above the base of the cere. Cheeks rufescent brown, the feathers dark shafted. Ear coverts yellowish or a soiled white, the feathers dark shafted. Chin and throat white, some of the feathers with dark shafts. All round the edges of the lower mandible there are stiff bristle-like hairs, which are  $\frac{1}{2}$  an inch or more long. A rufous brown line behind the eye, and another from the gape forming a fairly distinct moustachial stripe. Sides of the neck rufous, the feathers dark shafted and edged lighter. Breast rufescent, the feathers dark shafted and edged buffy. Nape and back of the neck rufous brown, mottled with white, the basal portion of the feathers showing through. Abdomen deep chestnut brown, the feathers edged fulvous and with dark shafts. Thigh coverts deep brown, the feathers edged reddish fulvous; upper back, scapulars, and lesser wing coverts brown, edged with rufous; lower back and rump uniform brown, the lateral feathers of the upper tail coverts bright rufous and irregularly barred with brown. Lower tail coverts white. Tail (except the two lateral feathers, which are shaded with ashy grey) pale rufous, with a broad terminal band of slightly deeper rufous; the shafts and inner webs white, with traces of brown cross bars. Outer webs of quills ashy grey, the inner webs blackish from the tip to the emargination or sinuosity and white beyond, forming on the under surface of the wing a large white patch. Except the first three, all the other primaries are barred on both webs; the 3rd, 4th, and 5th quills emarginate on the outer webs, and all five primaries emarginate on their inner webs.

Legs and feet pale lemon yellow. Irides brownish yellow; orbital ridge dusky greenish. Bill brownish plumbeous, gape yellow, tip black. Cere yellowish green.

*Length*.—24 inches; wing 16·75; tail from vent 9·75; tarsus 3·20.

Female obtained at Sehwan, 5th February, similar to the male. Length 25 inches; wing 19·75; tail from vent 10·75; tarsus 2·75.

*Hab.*—Winter visitant in Sind. Found throughout India. It is recorded from Northern, Southern, and Central India, N.-W. Provinces, the Punjab, the Gangetic Valley, N.-W. Himalayas, Kashmir, Nepal, Oudh, and Behar; also from Beloochistan, Persia, Afghanistan, Eastern Turkestan, and Palestine. In Palestine Mr. Tristram (*Ibis*, 1865) took its eggs from a rocky ledge on Mount Carmel. The plumage of his Palestine specimen, he says, is very rufous, and he shot breeding birds with and without the bar on the tail.

**22. *Buteo desertorum***, *Daud. Traite*, ii. p. 164; *Vieill. N. Dic. d'Hist. Nat.* iv. p. 478; *Hume, Rough Notes*, ii. p. 268; *Jerd. Ibis*, 1871, p. 338. *Buteo rufiventer*, *Jerd. Ill. Ind. Orn.* pl. 27. *Buteo vulgaris*, *Jerd. B. Ind.* i. p. 87.—The AFRICAN BUZZARD.

*Adult.*—Above brown, all the feathers except on the lower back and rump margined with rufous. Head and neck tawny rufous, the feathers mesially streaked with dark brown; sides of face whitish, washed with rufous and narrowly shafted with dark brown. Under surface of body tawny rufous, some of the feathers of the lower breast tipped with creamy buff, the under tail coverts inclining to this colour, as also the middle of the breast; thighs and flanks rufous, shaded with ashy brown; under wing coverts creamy buff with rufous central streaks, the outermost and greater series inclining to ashy brown; upper wing coverts dark brown, the feathers margined with rufous. Primaries black, externally shaded with ashy grey, the secondaries lighter brown, tipped with whitey brown. Under surface of quills white at base of inner webs, shading into ashy white gradually towards the tips.

Upper tail coverts rufous at tip and on outer web; tail rufous, yellowish at tip, with an indistinctly indicated subterminal bar of brown, the shafts white. Cere lemon yellow. Bill dark plumbeous, lighter near the cere; feet lemon yellow; iris light hazel, or yellowish. Length 21 inches; culmen 1.55; wing 13.4; tail 7.8; tarsus 3. (Sharpe.)

*Hab.*—The whole of Africa, S.-E. Europe, and the Indian Peninsula generally. Common in the Himalayas. Recorded from the Neilgherries, and from Murree to Darjeeling. Nothing is known of the nidification of this species, except what Dr. Bree says, that, according to M. Fairer, it nests among the rocks and the male takes its turn in sitting.

**23. *Buteo plumipes***, *Hodgs. in Gray's Zool. Misc.* p. 81; *id. P. Z. S.* 1845, p. 37; *Jerd. B. Ind.* p. 91 No.; *Hume, Rough Notes*, p. 285; *Jerd. Ibis*, 1871, p. 340; *Str. F.* iv. pp. 358-371; *Sharpe, Cat. Acc. B. M.* p. 180. *Buteo japonicus*, *Bp. Conspectus* i. p. 18; *Jerd. Ibis*, 1871, p. 337. *Buteo vulgaris*, *Blyth, Ibis*, 1863, p. 20.—The HARRIER BUZZARD.

#### PLATE.

*Adult.*—Above dark purplish brown, the feathers rufescent on their margins; sides of face and neck rufous, the feathers mesially streaked with brown; lores whitish. Upper margin of ear coverts dark brown; cheeks blackish, forming a strongly pronounced moustache. Under surface of body rufous.

streaked with blackish on the chin and less distinctly on the throat; chest almost uniform rufous with a black shaft stripe; lower breast fulvous white, irregularly barred with rufous brown; thighs rufous with fulvous margins to the feathers; lower abdomen, vent, and under tail coverts creamy buff. Primaries blackish; secondaries paler with whitish tips and irregularly mottled or barred with brown; tail brown with an indistinct purplish subterminal band, a white tip, and 3—4 other distinguishable bars of darker brown.

*Length*.—21·5 inches; wing 15·7; tail 9; tarsus 3; culmen 1·35.

Aged specimens are everywhere dull smoky brown, the wing coverts and scapulars lighter; primaries dark brown, inclining to purplish brown near the tips; the inner web buffy white, barred with brown; shafts whitish; secondaries like the back; tail uniform smoky brown with whitish shafts and pale whitey brown tips with obsolete remains of cross bars. Sides of face and neck and entire under parts uniform smoky brown.

*Length*.—20 inches; wing 15·4; tail 9; tarsus 3.

*Hab.*—The Travancore Hills of Southern India, the Himalayas, the Northern portions of the Tennesseem province of British Burmah, Nepal and Sikkim and eastwards to China and Japan.

Mr. Bourdillon in *Str. F.* states that this is a winter visitor in Travancore during December, January, and February, preferring high open country, where two or three may be seen steadily quartering the ground and occasionally pouncing on some mouse or lizard. As to the identity of this species with *plumipes* there is still a set controversy owing to the very variable plumage of the Buzzard in all their different stages. Messrs. Hume, Blyth, Sharpe, Dresser, and Gurney have worked hard to find out the points of distinction between the Indian species of Buzzards, but no satisfactory conclusion has yet been come to. Mr. Sharpe has, however, in his Catalogue fairly well given a key to seventeen species of *Buteo* from all parts of the world. I doubt whether anything could be made of the Indian species.

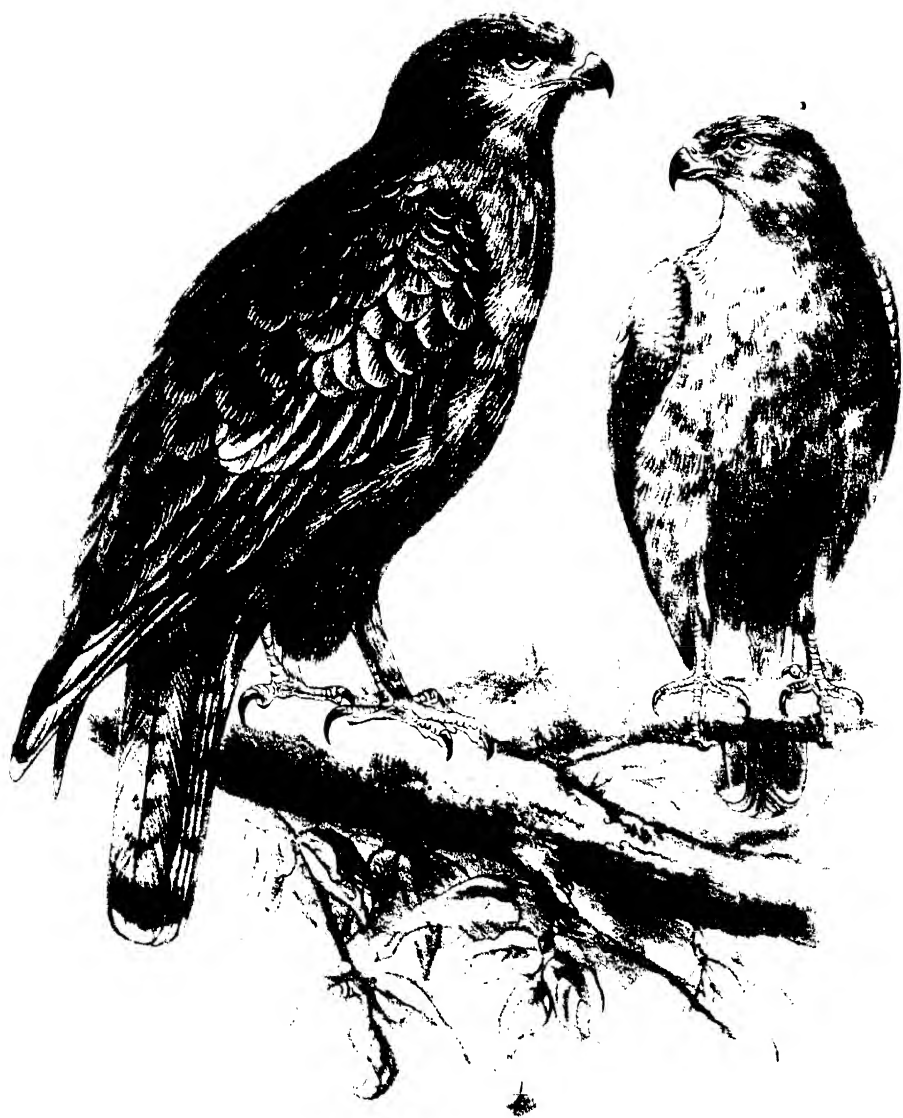
#### Gen. **Archibuteo**.—*Brehm*.

Characters of *Buteo*. Tarsi lengthened and feathered to the toes.

**24. *Archibuteo strophiatu*s**, *Hodgs.; Gray, Cat. Mam. and B. Nepal; Jerdon, Ibis*, 1871, p. 340; *Sharpe, Cat. Acc. B. M.* p. 199. *Archibuteo hemiptilopus*. *Bly. J. A. S. B.* xv. p. 1; *Jerd. B. Ind.* i. p. 94, No. 49; *Hume, Rough Notes*, p. 232; *id. Str. F.* i. p. 315. *Archibuteo leucoptera*, *Hume, Str. F.* i. p. 318.—THE BROWN EAGLE BUZZARD.

#### PLATE.

*Adult*.—Above rich deep fuscous brown, slightly glossed with pinkish; interscapular region slightly darker; scapulars and wing coverts margined paler; lores whitish; sides of face and neck brown. Entire under parts brown; also the tarsal feathers, which extend to the root of the toes; a broad irregular band of white across the breast. Quills dark brown; primaries shaded greyish



ARCHIBUTEO STROPHIATUS.

BUTEO PLUMIPES.



externally and white at base of inner web. Tail brown above, ashy white beneath; the shafts and tips white or albescent and the feathers crossed with traces of 7—8 bars of dark brown.

*Length*.—27 inches; wing 19·4; tail 11; tarsus 3·6; bill 1·9.

*Hab*.—Sikkim, Nepal, and Tibet. Nothing is known of the habits and nidification of this Buzzard, of which there are only 3 or 4 specimens in existence.

**Sub-Family.**—AQUILINÆ, EAGLES.

Bill strong, more or less lengthened, festooned but not toothed; tarsus reticulate behind, more than half the length of the tibia. Outer toe only connected to middle toe by membrane. Wings moderate. 4th quill usually longest.

**Gen.**—*Gypætus*.

Bill strong, lengthened, compressed, straight; tip of upper mandible much hooked. Nostrils oval, hidden by stiff bristles. Chin with a tuft of black rigid hairs.



*Gypætus barbatus.*

**25. *Gypætus barbatus*, Storr. *Alpenreisse*, p. 69; *Jerd. B. of Ind.* p. 13; *Hume, Rough Notes*, vol. i. p. 35; *Murray, Hdbk. Zool., &c., Sind*, p. 105; *id. Vert. Zool. Sind*, p. 64. *Falco barbatus*, *Gm. S. N.* vol. i. p. 252. *Gypætus hemalachanus*, *Hutton, Four. As. Soc. Ben.* vol. vii. p. 22. *Gypætus orientalis*, *Blyth, Ibis*, 1863.—The BEARDED VULTURE or LAMMERGEYER.**

*Adult*.—Above black, a few brown feathers on the rump; quills brown, externally washed with ashy, the secondaries with ochreous brown, the shafts of all the feathers white, feathers of the back also white shafted, tinged with buff, especially on the wing coverts. Head white, with dark streaks; nape feathers lanceolate, elongate, tinged with bright tawny; cheek stripe and supercilium black; bristles over the nostrils and tuft of hairs under the chin black. Entire lower parts rich tawny, dull orange, or ferruginous; a dark pectoral collar (not always present) more or less distinct. Under wing coverts dark brown with pale shaft streaks. Bill bluish horn, the tip darker; feet plumbeous; iris pale orange; sclerotic membrane blood red.

*Length*.—45 to 46 inches; expanse 108 to 112; wing 29·5; tail 20; tarsus 4; culmen 3·7.

*Hab*.—The highest mountains of Europe, Asia, and Africa, principally the the most inaccessible parts; also the Himalayas from Nepal to Cashmere, and the Salt and Sooliman Ranges; not uncommon in the Bolan (Beloochistan) and South Afghanistan.

The Lammergeyer is not common in any part of Sind, except the northern country, at and beyond Jacobabad, affecting the hilly districts. Whether it is a permanent resident of those parts or only a winter visitant, is not known. Mr. Hume, in his contributions to the Ornithology of India, &c., in *Stray Feathers* states that he observed it on two occasions in the hills dividing Sind from Khelat. Dr. Day observed it in Durrayah, and it is said to be well known to sportsmen who have shot ibex in those ranges.

It does not possess the carrion-eating propensities of the other vultures, but kills its own game, comprising ibex, hares, &c.

Breeds in the Himalayas during December, January, and part of February. The nest is a large heap of sticks about 3 × 5 feet, lined with hair, rags, feathers and bones and commonly placed in almost inaccessible situations. Captain Cock took a nest in December 1868, two marches from Rawulpindee on the Peshawur side. There were two eggs in it which Mr. Hume says are excessively like one of the common types of the eggs of *Neophron ginginianus*, but much larger, a rather broad oval, somewhat pointed towards one end. Texture coarse, but the shell more compact and less chalky than those of the Neophrons. In colour a nearly uniform pale salmon buff, here and there mottled paler. They measure 3·43 to 3·05 × 2·68 to 2·52 inches.

Gen. **Aquila**.—*Briss.*

Bill straight at the base, very much curved at the tip. Sides compressed. Wings, 4th and 5th quills longest and equal. Tarsi feathered to base of toes.



**26. *Aquila chrysaetos*, Lin.;** *Dumont, Dict. Sci. Nat.* i. p. 339; *Gould. B. Eur.* i. pl. 6; *McGill. Brit. B.* iii. p. 204; *Ferd. B. Ind.* i. p. 55, No. 26; *Stray Feathers*, i. p. 157; *Hume, Rough Notes*, i. p. 139; *Murray, Vert. Zool. Sind*, p. 74; *Sharpe, Cat. Acc.* p. 236. *Aquila fulva*, *Sav. Descr. Ois. De Egypt*; *Shelley, B. Egypt*.—The GOLDEN EAGLE.

*Adult Male*.—Crown of the head brown; nape and hind neck pale orange brown, the feathers lanceolate, with brown bases; sides of the face paler. Lores greyish white. Cheeks blackish. Back, scapulars, and wing coverts dark brown, the latter and scapulars margined slightly paler. Greater wing coverts with brownish mottlings. Primaries dark brown, blackish towards their tips, basally white on their inner webs and clouded or mottled with brown. Tail nearly square, the middle feathers slightly elongated. At the tip it is dark brown or nearly black, greyish basally; the intervening space brown and much mottled. Under surface of body dark brown; the thigh, leg and under wing coverts pale brown, tinged or washed with tawny. Cere yellow. Bill bluish horn colour, darker at the tip. Legs yellow. Irides hazel.

*Length*.—35·5 to 40 inches; wing 24·5 to 28; tail 14 to 17; tarsus 3·8 to 4·5. The young has the plumage of a lighter shade. The feathers of the back, scapulars, and tertials brown, basally broadly white and showing through. The tail broadly black terminally, white or ashy at the base, and mottled with brown. Under surface of body light brown, the feathers basally white. The thigh and under tail coverts tawny rufous. Adult female is larger than the male.

*Hab.*—The whole of Europe and N. Asia, extending into India and N. China. Has been found in the Punjab and in the Himalayas. In Sind it occurs on the hills dividing Sind from Khelat; also in the Bolan, Beloochistan, and probably extends into Persia and Afghanistan.

Nothing is known as to the breeding of this noble and majestic eagle in India. Of its breeding in Europe, Yarrell and Morris give long accounts. The former says it makes a large platform of sticks on high and inaccessible rocks and precipices, occupying a space of several square feet. Morris (*B. Birds*) says, or on the stump of some tree projecting from them or on the lofty



trees of the forest. The nest is usually lined with roots, dry grass, heather, moss, or other vegetable materials. The usual number of eggs is two, but sometimes three are found. They are usually of a dirty white colour and either richly blotched and spotted or thickly mottled, streaked, and clouded with varying shades of red or reddish brown. Some are pure white. The eggs according to Mr. Hume are broad, very perfect ovals, slightly compressed towards one end. Mr. Hewitson's figures of three eggs measure  $3 \times 2.35$  inches;  $3.13 \times 2.3$ ;  $2.95 \times 2.35$ .

Of the habits of this noble bird much has been written, to compile which would take pages of print. In Central Asia it is said to be trained to kill antelopes, foxes, &c., and to be held in much esteem by all the tribes. Its food consists principally of sheep, lambs, rabbits, and such like small animals, but it does not hesitate to attack larger game, fixing itself on the head of the victim and flapping its wings in the animal's eyes; the smaller animals it is said to seize with one foot and drag the other on the ground.

**27. *Aquila heliaca*, Savign. Desc. Egypt. p. 459; Gould. B. Eur. pl. 5; Gray, Gen. B. i. p. 13; Sharpe, Cat. Acc. p. 238; Murray, Vert. Zool. Sind, p. 74. *Aquila imperialis*, Cuv. Regne. Anim. i. p. 325; Gray, Ill. Ind. Zool. ii. p. 28; Ferd. B. of Ind. i. p. 57, No. 27; Hume, Rough Notes, i. p. 142; Stray Feathers, i. p. 157; Murray, Hdbk. Zool. &c. Sind, p. 109. *Aquila mogilnik*, Strickl. Orn. Syn. p. 57 (S. G. Gmel.). *Aquila bifasciata*, Saund. P. Z. S. 1871—THE IMPERIAL EAGLE.**

*Young*.—Above rather light brown, the back feathers mostly shaded down the middle with ashy and on the margins with purplish; all the feathers of the upper surface pointed with buffy fawn colour, giving a spotted character to the plumage; head and neck tawny buff, the feathers with clear brown bases, which show through more or less and impart a streaked appearance; the plumes of the hind neck long and lanceolate, brown like the back, with tawny streaks down the centre; wing coverts brown, pointed with fulvous like the back; the greater and median coverts with broad buffy white terminal spots, widening up the shafts of the feathers; quills blackish; the secondaries rather browner, and broadly tipped with buffy white; feathers of hinder back and rump tawny fulvous, with dark brown lateral margins, spreading more over the plumes of the latter part; upper tail coverts buffy white, in strong contrast to the tail, which is uniform brown, tipped with buffy white; under surface of tail light tawny fulvous, nearly uniform on the throat, abdomen, thighs, tarsus, and under tail coverts; the whole of the breast feathers laterally margined with brown, producing a distinctly streaked appearance; under wing coverts rufous fawn colour, streaked with brown; the lower series ashy brown, like the inner lining of the wing.

*Adult Male*.—Blackish brown above, much lighter brown on the hinder part of the back and on the upper tail coverts, which are mottled with white near the base, and broadly tipped with the same; many of the scapulars pure

white, forming a conspicuous patch, which, however, is confined to the scapulars themselves; the least wing coverts slightly mottled with brown, but not with white near the carpal bend; rest of wing coverts blackish brown, uniform with interscapulary region; quills blackish; the primaries externally shaded with ashy grey; the secondaries browner, the innermost slightly tipped with buffy white; the lower surface of wing ashy brown; the primaries mottled with whitish at base of inner web. Tail ashy grey for a little more than the basal two-thirds, shaded with silvery grey, and mottled with blackish brown, forming indistinct and broken bars on some of the feathers; the terminal third blackish brown with a narrow tip of fulvous; head and neck light fulvous with fawn-coloured bases to some of the feathers of the nape. Hind neck dark fawn brown with light buff tips and dark brown centres; forehead and anterior part of crown blackish, as well as the feathers over the eye; sides of face and of neck light fulvous like the crown, the feathers under the eyes inclining to brown. Cheeks and entire under parts blackish; the under tail coverts tawny buff with dark brown shaft lines and whitish tips to the feathers; under wing coverts and axillaries blackish, like the breast. Cere pale yellow. Bill bluish, darker at tip. Feet pale yellow. Iris brownish yellow.

*Length*.—Male 31 inches; culmen 2·6; wing 22·6; tail 11·3; tarsus 2·9. (Sharpe, *Cat. Acc.*)

*Adult Female*.—Larger. Length 32·34 inches; wing 23·75—24 inches; tail 11·5; tarsus 3·85. (Sharpe, *Cat. Acc.*)

*Hab.*—South, Eastern and Central Europe, and throughout India nearly. Occurs in Sind, the Punjab, Beloochistan, Afghanistan, Persia, Concan, and Deccan; Nepal, Behar, Central and Southern India, and the Himalayas.

Mr. Hume (*Rough Notes*) has collected all the information possible in regard to the nidification of the Imperial Eagle. A few, he says, remain to breed in the upper Punjab and possibly in the Dhoon; the rest breed in the Himalayas. They lay (in the plains) in February, March, and possibly April, building a large platform of sticks on or near the top of trees; Peepul trees generally, and also at times on Babool (*Acacia*) and other thorny trees. The nests were from 2 to 2·5 feet in diameter and some 6 to 8 inches thick, lined with a few green leaves. Mr. Blewitt took a nest near Hansie which was only 18 inches in diameter, without any lining and also from on top of an *Acacia* tree. The eggs, Mr. Hume adds, vary much in size and shape—2·6 to 3 inches in length and from 1·95 to 2·15 in breadth. The average of nine eggs is given as 2·7 × 2·09 inches. The figure in Bree measures 2·05 × 2·88, normally the eggs seem a broad oval, but one or two are a good deal lengthened. The Kurrachee Museum specimens are all broad ovals, white or greyish white, and one only has the faint spots and streaks of pale brown with purplish brown blotches. The number of eggs is generally two, and sometimes three. Mr. C. Farman (*Ibis*, 1869; and *Rough Notes*) notes that it is a very shy bird and difficult to approach,

and is very daring during the breeding season. The male, he says, is always on the watch circling gracefully in the air above the nest or seated on some neighbouring tree, whence on the slightest approach of danger he comes swooping down towards his eyrie, uttering a hoarse, croaking noise as a warning to the female who instantly leaves the nest and joins her partner.

This is not however Mr. Hume's experience, he looks upon the "Konigs-adler" as no better than a great hulking kite. He has taken their eggs before their eyes without the parents flapping a pinion to defend what a Shrike would swoop to save. The Imperial Eagle, though preying on quails, rats, and sometimes hares, does not disdain carrion.

**28. *Aquila mogilnik*, Gm. N. Comm. Petrop, xv. p. 445, pl. xi. b. (1770). *Aquila bifasciata*, J. E. Gray in Gray & Hardw. Ill. Ind. Zool. i. pl. 17; Anderson, P. Z. S. 1871, p. 621. *Aquila nipalensis*, Hodgs. Asiatic Researches, xviii. pt. 2, p. 13, pl. 1.—THE RUSSIAN EAGLE.**

*Adult Male*.—Head darker brown than the back, which is a pale brown, as also the lesser and median wing coverts; lower back, and rump, the under surface of the body and some of the median wing coverts tipped with fulvous; the greater wing coverts dark brown, also tipped with fulvous. Lores whitish. Primaries and their coverts deep brown, tipped broadly in some with buffy or ashy grey with buffish tips. Under surface of the wing blackish brown, mottled with greyish at the base of the inner web; under wing coverts brown, the lesser series pure white. Upper tail coverts white, tail brown with indistinct ashy bars and fulvous tips. Cere, gape, base of lower mandible, and feet deep yellow; bill blackish; irides dark brown.

*Length*.—30 inches; wing 22; tail 11·7; tarsus 4. (Sharpe.)

The adult female is not very much larger. The length as given by Sharpe in his Catalogue of the Accipitres in the British Museum is 30 inches; wing 23·2; tail 11·5; tarsus 4. The young male is described as ashy brown on the upper surface, shaded with glossy purplish black on the back, scapulars, and wing coverts. Median and greater coverts blackish, shaded with ashy grey and broadly tipped with bright ochraceous fawn colour, paling into fulvous on the extreme tip and forming a triple band across the wing. Primaries and their coverts blackish, broadly tipped with fawn colour; both webs, like the wing coverts, distinctly but irregularly barred with silvery grey, distinctly so on the under surface of the secondaries. Primaries black below, greyish on the inner web, and thickly mottled with brownish; lower back and rump ashy brown like the head, the lower feathers of the latter part more or less marked with fawn colour; the upper tail coverts entirely fawn colour, paling into fulvous on their tips; tail dark brown with a broad terminal band of fawn colour mottled conspicuously with ashy grey on the outer feathers and taking the form of imperfect bars on the middle ones, sometimes 8 or 9 being distinguishable. Sides of face and neck as well as entire under surface of the body ashy brown,

paler on the tarsal feathers. Under tail coverts pale buffy fawn, some of the under wing coverts also marked with a terminal triangular spot of the same colour. Bill, feet, and gape yellow. Cere greenish.

*Hab.*—South-Eastern Europe, N.-W. India, and the Himalayas, extending into Siberia.

It has been found in Nepal and in Kumaon and Gurhwal in the N.-W. Provinces. Of its nidification nothing certain is known, and this is owing chiefly to the vexed question whether or not, Radde's *Imperialis*, Gray's *bifasciata naria*, and *punctata* are not identical with this species. There are marked differences, but the various stages and colouration of plumage of this order and the present uncertainty of the validity of the typical specimens of the various stages compel me to accept Mr. Sharpe's description of this Russian Eagle as distinct from those above referred to.

**29. *Aquila vindhiana*, Frankl. P. Z. S. 1831, p. 114; Strickl, Orn. Syn. p. 59; Sharpe, Cat. Acc. p. 244. *Aquila punctata*, Gray, in Gr. & Hard, Ill. Ind. Zool. i. pl. 16. *Aquila fusca*, id. Op. Cit. ii. pl. 26. *Aquila fulvescens*, id. Op. Cit. ii. pl. 29; Jerd. B. of Ind. i. p. 60, No. 29; Hume, Rough Notes, i. p. 173; Stray Feathers, i. p. 158; Murray, Hdbk. Zool. Sc. Sind, p. 109; id. Vert. Zool. Sind, p. 76. Wokhab, Hind; Ukab Sind.—THE TAWNY EAGLE.**

*Young.*—Above glossy purplish brown with distinct fulvous tips to the feathers, broader on lower back, rump and upper tail coverts; head and neck all round and entire under parts greyish mouse colour, with distinct points to all the feathers of the head and neck, absent on the under surface, excepting a few remains on the tips of the abdominal and lower throat feathers; lores and chin whitish, with narrow black shaft lines, the latter also apparent on the cheeks and ear coverts, which are mouse grey, like the breast; tarsal feathers and under tail coverts more fulvescent; under wing coverts mouse grey with pale fulvous tips; upper wing coverts ashy brown, with a very slight purplish gloss, but not so dark as the back, nor so grey as the head, though tipped like the latter with fulvous; greater and primary coverts, as well as the secondaries, deep brown, with whitish ends; primaries black, slightly shaded with brown near the base; lower surface of wing ashy brown, blackish towards tips of primaries; the inner webs of all slightly mottled with greyish. Tail purplish brown, tipped with buffy white; all the feathers shaded with ashy grey, forming indistinct bars on the centre feathers, on which remains of eleven or twelve can be counted.

*Length.*—28 inches; wing 20·75; tail 11; tarsus 3·2.

*Adult Female.*—General colour fulvous or tawny brown, most of the feathers with lighter margins, especially on the least wing coverts; the median coverts darker brown, but not so glossy as the back, with fulvous margins; greater and primary coverts, as well as secondaries, tipped with fulvous;

primaries blackish, externally shaded with ashy grey, forming distinct bands on both webs, these bands more vermiculated on the lower surface, the inner webs of the quills being ashy brown, shading into deep brown towards the tips of the primaries; tail dark brown, tipped with fulvous, the feathers shaded with ashy grey, forming 8—9 distinct bars on centre feathers; head and neck rather paler than the back, the feathers of the latter part margined with fulvous, giving a very mealy appearance; sides of face also light fulvous; under surface of body pale fulvous brown, lighter on the throat, thighs, and under tail coverts; under wing coverts with many of the feathers whitey brown on their margins, and near the base, the lower series ashy brown like the inner lining of the wing. Cere and gape deep yellow; feet yellow. Iris hazel brown. (Sharpe, *Cat. Acc.*)

*Length*.—27—28 inches; expanse 67—69 inches; wing 19·75—21·75; 4th and 5th primaries longest; tail 11·25—11·5; tarsus 3·8.

*Adult Male*.—28 inches; wing 20·5; tail 11; tarsus 3·4. (Sharpe, *Cat. Acc.*)

*Hab.*—Sind, Punjab, N.-W. Provinces, Bengal, Rajpootana, Kattiawar, the Deccan, Concan, Behar, the Carnatic, Central and Southern India, Nepal and Darjeeling.

A permanent resident in Sind and most parts of India. In Sind it breeds in January, making a large nest of sticks lined with straw, leaves, &c., on high trees, laying normally 2 broad oval or spherical eggs; the ground colour is greyish white, either unspotted or with blotches and patches of yellowish brown. In upper India it breeds from the middle of November to the middle of June, but the majority, according to Hume, lay in January. In size the eggs vary from 2·35 to 3·25 inches  $\times$  1·8 to 2·25.

**30. *Aquila hastata*, Less.** *Voy. Belang.* p. 217; *Blyth. J. A. S. B.* xv. p. 7; *Jerd. B. Ind.* i. p. 62 No.; *Hume, Rough Notes*, i. p. 180; *Anderson, P. Z. S.* 1871, p. 622. *Aquila nævia*, *Brooks, Str. F.* i. p. 293.—The LONG-LEGGED EAGLE.

*Adult*.—Glossy hair brown above, most of the feathers tipped with white. Quills glossy purplish black; tail the same, but obsoletely barred with dusky grey and tipped white; upper tail coverts barred with white. Breast, abdomen, feathers of the leg, lower wing coverts, and under tail coverts yellowish white, closely barred with brown. Quills and tail beneath grey, mottled and barred with dusky. In some only the feathers of the hind head and neck are tipped with white, the tertials are broadly tipped with white and there are three distinct rows of spots on the wings; *lesser wing coverts with small white spots; nostrils rounded.*

The young and adolescents are much lighter in colour, the lower parts from the breast are streaked longitudinally with fulvous white and the secondaries and tertials barred and clouded with whitish and brown.

*Adult ♂*.—Length 23 to 25 inches; wing 19 to 19·15; tail 9·5; tarsus 3·9 to 4; culmen 2·3.

Males are smaller.

*Hab.*—Upper India. Recorded from Behar, Darjeeling, and Nepal.

Nothing is known of the nidification of this handsome eagle, regarding which there is a set controversy as to its being distinct from *A. nævia*. Mr. Sharpe however remarks that the small white spots on the least wing coverts which frequently occur in this species may perhaps present a character of importance in distinguishing it from *A. nævia*.

**31. *Aquila clanga*, Pall. Zoogr. Rosso. Asiat. i. p. 351; Gray, Hand List. i. p. 28; Sharpe, Cat. Acc. p. 248; Murray, Hdbk. Zool. Sc. Sind. *Aquila vittata*, Hodgs. in Gray's Zool. Miscellany, 1844. *Aquila nævia*, Schrenck. Reis. Amurl. Vog. p. 220; Jerd. B. of Ind. i. p. 29. No 28; Hume, Rough Notes, i. p. 162; Stray Feathers, i. p. 158; Andr. P. Z. S. 1871; Murray, Vert. Zool. Sind, pp. 75, 76.—THE SPOTTED EAGLE.**

*Young Male*.—Above brilliant purplish brown; head and neck rather duller with lanceolate apical streaks of dingy buff on the nape and hind neck; wing coverts purplish brown like back, with a few dull white longitudinal streaks on the median coverts, much larger and forming distinct oval spots on the primary and greater coverts and tips of the scapulars. Quills blackish; secondaries browner with obsolete blackish bars and oval markings as the scapulars; lower back and rump with distinct triangular spots of ochraceous buff; the upper tail coverts almost uniform buffy white; tail feathers blackish, shading into brown towards the end, and tipped with whitey brown with 3—4 black bars near the tips; under surface of body blackish; the chin browner; breast feathers with pale brown mesial streaks, more ochraceous on the abdomen and leg feathers. Under tail coverts ochraceous buff; under wing coverts uniform blackish; axillaries browner.

*Length*.—26—28 inches; wing 20—21; tail 10—10·5; tarsus 3·9.

*Adult Male*.—Smaller than female. Length 26—27; wings 20—20·5; tail 10; tarsus 3·6. The female is a powerful bird, and is 29 inches in length, the wing being 21·4, tail 11·8, tarsus 4·2. (Sharpe, Cat. Acc.)

*Hab.*—Sind, Persia, Punjab, N.-W. Provinces, Bengal, Kutch, and Guzerat; also the Concan and Deccan, Malabar, and Southern India. Breeds in Sind, the Punjab, N.-W. Provinces and Oudh; also in Bengal and Central India. Capt. Marshall's note on the nidification of this species in the Sharunpur district gives May and June as the period of breeding. He says the nest was placed in a fork near the top of a large tree along the bank of the Eastern Jumna canal. It was a large circular platform-like structure of sticks with a few dead leaves in the egg receptacle but no other lining. The diameter of the whole nest was about 20 inches with an interior depth of two inches. Eggs one

and sometimes two—a very blunt oval of a slightly yellowish white ground, somewhat profusely spotted and blotched with rather faint yellowish brown and a pale washed out purplish brown, which latter colour greatly predominates. In size the eggs vary from 2·5 to 2·7 inches  $\times$  1·96 to 2·5.

Gen. **Nisætus**.—*Hodgs.*

Bill much hooked at tip; cere large; nostrils large, elliptic; upper mandible festooned; tarsus feathered to the toes. No elongated occipital crest.

**32. Nisætus fasciatus**, Vieill (*Aquila apud Vieill*) *Mem. Lin. Soc. Paris*, p. 152; *Sharpe, Cat. Acc.* p. 250; *Strickl. Orn. Syn.* p. 61; *Murray, Vert. Zool. Sind*, p. 77. *Falco bonelli*, Tem. *Pl. Col.* i. pl. 288. *Aquila bonelli*, Less. *Man. Orn.* i. p. 83; *Gould. B. Eur.* i. p. 7; *Shelley, Birds of Egypt*, p. 206. *Eutolmæus bonelli*, Blyth, *J. A. S. B.* xix. 174; *Hume, Rough Notes*, i. p. 189. *Pseudæus bonelli*, Bp. *Cat. Ois. Eur. Parzud.* p. 1; *Hume, Stray Feathers*, i. p. 158. *Nisæus bonelli*, *Ferd. B. of Ind.* i. p. 67, No. 33; *Murray, Hdbk. Zool. Sc. Sind*, p. 100.—THE CRESTLESS HAWK EAGLE.

*Adult Female*.—Above deep brown, the feathers white at base, some of them paler margined; eyebrow and sides of neck streaked with white. Sides of the face white; cheeks streaked with brown, ear coverts inclining to rufous. Under surface white with dark shaft stripes; flanks irregularly barred and marked with dark brown arrow-head markings. Feathers of the tarsus more or less pale brown, varied with dark brown and irregularly spotted with white; under wing coverts white, streaked with black; the lower ones entirely black with white tips; axillaries white, barred and streaked with blackish. Quills deep brown, mottled on the inner web with white. Tail ashy brown, inclining to grey, with 5—6 indistinct bars of brown near the base, and a broad subterminal band of dark brown; the tips of the feathers fulvous; cere and gape dingy yellow, bluish about the nostrils. Bill horn black. Feet whitish brown, tinged with yellow. Iris yellow.

*Length*.—26 inches; culmen 2·5; wing 21; tail 11·5; tarsus 4.

*Adult Male*.—Length 27—29 inches; wing 18—19·6; tail 11; tarsus 3·5. (*Sharpe, Cat. Acc.*)

*Hab*.—Found in Southern Europe and the Mediterranean. Breeds nearly throughout India. In Sind and the Punjab during December and January and in the Himalayas according to Hume in April and May. It occurs in the N.-W. Provinces, also in Persia, Beloochistan, and Southern Afghanistan, Kutch, Guzerat, the Deccan, Concan, Central and Southern India, Kattiawar, the Carnatic, Nepal, Assam, and in fact the entire Indian Peninsula.

This Eagle breeds on trees, or on ledges of precipitous rocky cliffs. The nest is from 4 to 6 feet in diameter, made of sticks, with scarcely any depression, except in the middle for the reception of the eggs. The lining of the nest is usually of green twigs and leaves. The number of eggs is usually two.

but three have occasionally been found. They vary in shape and size, also in colouring; generally they are oval, unspotted pale greyish or faintly streaked and blotched with pale yellowish or reddish brown. In size they vary from 2·56 to 3 inches in length and from 1·95 to 2·22 in breadth.

**33. Nisætus pennatus**, *Gm. Sys. Nat.* i. p. 272; *Tem. Pl. Col.* i. pl. 33; *Sharpe, Cat. Acc.* p. 253; *Murray, Vert. Zool. Sind.* p. 78. *Aquila pennata*, *Vig. Zool. Journ.*; *Gray, Gen. B.* i. p. 14; *Jerdon, B. of Ind.* p. 63, No. 31; *Layard, B. S. Afr.* p. 10; *Murray, Hdbk. Zool. Sc. Sind.* *Hieratus pennatus*, *Kaup. Mus. Senck.* iii. p. 260; *Blyth, J. A. S. B.* xv. p. 7; *Hume, Rough Notes*, i. p. 182; *S. F.* vol. vii. pp. 74, 198; viii. 162.—The DWARF or BOOTED EAGLE.

Head and neck behind, and on the sides, rufous or pale orange brown, the feathers lanceolate and streaked mesially with dark brown; some of the lengthened feathers entirely dark brown and forming a not very apparent crest. A narrow superciliary stripe; a band from the angle of the mouth below the ear coverts, and a central chin stripe dark brown. Ear coverts rufescent brown; back, scapulars, and wing coverts sepia brown; the median wing coverts and some of the scapulars broadly edged with fulvous white, forming a conspicuous wing band; rump and upper tail coverts like the back, the latter shading from dull fawn brown to buffy white on their margins and tips. Tail dull sepia brown, shaded with ashy, tipped with fulvous white, and with 4—5 indistinct bars of darker brown, more distinct on the under surface. Primaries dark brown, inclining to ashy white basally on their inner webs; secondaries indistinctly barred with dull brownish white. Under surface of body rufous, buffy, or fulvous white, deeper on the breast, and streaked with dark brown, the streaks disappearing on the abdomen, thighs, and under tail-coverts, which are white. Under wing coverts white with a few narrow shaft streaks. Cere and gape bright wax yellow; bill bluish black, pale blue at the base; feet pale wax yellow; iris pale brown.

*Length*.—Female 19—24 inches: wing 15·5 to 16; tail 9 to 9·25; tarsus 2·8. The young bird is paler beneath, the breast rufous or fulvous with a white shoulder spot, and white lores and forehead. The upper tail coverts are whitish, and the tail distinctly barred on both webs.

*Adult Male*.—Smaller than the female. Length 19 inches; wings 13·7; tarsus 2·4.

*Hab*.—Sind, the Punjab, N.-W. Provinces, Oudh, Beloochistan (Quetta), Persia, and Afghanistan; also the Concan, Deccan, and throughout the Indian Peninsula and Ceylon. Hume says it breeds in Spain in April and May, and that Mr. Theobald found a nest in the Salem district at Hurroor. The eggs were two in number; one which reached him, he says, was a very broad oval. Ground colour dead white, devoid of gloss, and thickly blotched and streaked throughout with reddish brown. Size 2·13 × 1·78 inches.



*Gen. Lophotriorchis.*

Nostrils visible; no chin tuft; crest long and wedge-shaped; bill short, high at the base, with a prominent festoon; tarsi feathered to the base.



**34. *Lophotriorchis kieneri*, Geoff. St. Hil. Rev. Zool. 1845, pl. 35; Sharpe, Cat. Acc. Br. Mus. p. 255. *Spizaetus kieneri*, Gray, Gen. B. i. p. 14; Hume, Rough Notes, i. p. 216; id. Str. F. i. p. 311. *Limnaetus kieneri*, Strickl. Ann. Nat. Hist. xiii. p. 33; Jerd. B. Ind. i. p. 74, No. 37.—THE RUFOUS-BELLIED HAWK EAGLE.**

Above black, slightly shaded with brown. Occipital crest 2·4 to 2·5 inches long; feathers of the nape white at the base. Ear coverts mixed white, black and rufous; cheeks, throat and breast pure white with a few narrow black shaft lines; rest of under surface including under wing and tail coverts tawny rufous, streaked with black shaft stripes, broader on the flanks; wings black, some of the feathers externally brownish, the inner lining of quills whitish ashy with a few blackish bars on the inner webs of the primaries; secondaries narrowly tipped with white; tail black, very narrowly tipped with whitey brown and with 6—7 indistinct bars of dark brown; lower surface of tail ashy white with a subterminal brown bar. Cere and feet yellow; bill plumbeous; irides brown.

*Length*.—21 to 25 inches; wing 14 to 16; tail 8·5 to 9·5; tarsus 2·9 to 3; culmen 1·5.

*Hab.*—The Indian Peninsula, Burma to Borneo and Sumatra, Travancore. Not uncommon in Lower Bengal, extending to the Himalayas. Mr. Inglis gives it from N.-E. Cachar and Wallace from the Phillippines. Nothing is known of its nidification. It is said to have a rapid and elegant flight and to mount and soar well.

*Gen. Neopus.—Hodgs.*

Bill moderate, bending from the base, much hooked at the tip, with a slight festoon in the upper mandible; cere large; nostrils ovoid oblique; wings exceeding the tail, which is long and slightly rounded; primaries emarginate; claws nearly straight.

**35. *Neopus malayensis*, Tem. Pl. Col. i. pl. 117; Horsf. and Moore, Cat. B. M. E. I. Co. i. p. 381; Jerd. B. Ind. i. p. 65, No. 32; Hume, Rough Notes, i. p. 187; Sharpe, Cat. Acc. B. M. p. 257.—THE BLACK EAGLE.**

Uniform brown black, paler and duller beneath. Upper tail coverts barred with white, feathers of the tail more or less distinctly barred with ashy; quills mottled with white or greyish white near the base and faintly barred on their inner webs. Cere, gape, and feet deep yellow; bill greenish horny, black at the tip; iris dark brown.

*Male*.—Length 27·5 to 29·5 inches; wing 22 to 22·7; tail 12·8 to 14; culmen 2·05; tarsus 3·4.

*Female*.—30·5 to 31·5; wing 23 to 25·5; tail 14 to 14·75; tarsus 3·62 to 3·75.

*Hab*.—The Indian Peninsula, Ceylon, Burmah, the Malayan Peninsula to Java and Sumatra. It occurs in Malabar, in the Wynad, Coorg, the Western Ghats, Travancore, Central India, the Punjab, N.-W. Provinces, throughout the Himalayas, Nepal, and Ceylon.

Jerdon says it is a bird of easy, graceful, and elegant flight, always soaring and circling about at no great height, with hardly any flapping of its wings. It lives chiefly on eggs of birds and nestlings.

### Gen. *Spizaetus*—*Vieil.*

Form aquiline; bill short, high at the base, curved, hooked at the tip; upper mandible with a festoon; wing short, tail long and square; tarsi moderate, feathered to the base; inner toe without the claw, shorter than the outer.

**36. *Spizaetus nipalensis***, *Hodgs. J. A. S. B.* v. p. 229, pl. 7; *Gray, Cat. Acc.* p. 8; *Blyth, J. A. S. B.* xix. p. 333; *Hume, Rough Notes*, i. p. 210; *Sharpe, Cat. Acc. B. M.* p. 267. *Limnaetus nipalensis*, *Jerd. B. Ind.* i. p. 73, No. 36; *Holdsw. P. Z. S.* 1872, p. 411.—The SPOTTED or HODGSON'S HAWK EAGLE.

*Adult Male*.—Crown of the head, occipital crest, ear coverts, cheeks, sides of the neck and nape blackish brown: the occipital crest, which is usually from 2·5 to 4 inches in length, is tipped with white, and the feathers on the nape, cheeks, and sides of neck edged with tawny; chin and throat white or fulvous white with a broad streak of black down the centre; back, scapulars, wing coverts and secondaries deep brown, the feathers with darker transverse bars; upper tail coverts a lighter brown than the back, narrowly tipped with white, and with broad transverse white bars; tail pale brown, narrowly tipped with white, and with 4—5 broad transverse, deep brown bands broader than the interspaces; neck in front and upper breast a mixture of brownish and fulvous white, the feathers broadly centred with blackish brown; rest of under surface including tarsal feathers which reach to between the inner and middle toes brown, barred transversely with white or fulvous white; under wing coverts white or fulvous white, also barred or spotted with brown; cere and bill black; feet dirty yellowish white; iris yellow.

*Length*.—28 to 29 inches; wing 18·5 to 19; tail 13 to 13·2; tarsus 3·9 to 4; culmen 1·9.

The adult female is larger than the male. Length 29·25 to 32 inches; wing 18·5 to 18·7; tail 12·6 to 13; tarsus 4·2 to 4·4.

Mr. Hume in *Rough Notes* describes a young male as having the whole of the head, back, and sides of the neck and ear coverts rufous buff, each feather with a narrow dark brown central stripe, a long conspicuous occipital crest black and narrowly tipped with white; scapulars and interscapular region hair brown, the feathers paling at the margins and towards their bases to a pale wood brown; rump and upper tail coverts dingy, somewhat rufous wood brown; central tail feathers a sort of olive brown, very narrowly tipped with white with a one inch subterminal and four other half inch broad transverse dark brown bands; wing coverts, except the greater primary coverts, a rather pale wood brown with dark brown centres, paling into the margins; secondary greater coverts almost wholly white on their inner webs; quills and primary coverts umber brown; 2nd to 5th primaries emarginate on their outer webs and obscurely barred with dingy buff; chin and throat pure white, also the base of neck in front, breast and abdomen—the feathers tipped with rufous buff and black shafted near the tip; lower tail coverts, flanks, and tibial plumes pale rufous brown, barred obscurely with white; axillaries the same, with spots forming imperfect bars; under wing coverts barred with dingy rufous or hair brown.

*Hab.*—Punjab, N.-W. Provinces, the Himalayas, Khasia, Southern India, Travancore, and Ceylon.

This species as far as is at present known breeds in the Himalayas during March, April, and May. Its nest, not unlike other eagles, is made of sticks and is said to be either hidden in a dense forest or projecting from the face of some inaccessible cliff. The normal number of eggs is two, in shape a broad regular oval, almost symmetrical at both ends. Shell coarse, dull, and glossless; the ground colour a slightly greenish white spotted thinly with reddish brown and with numerous large blotches and streaks of very pale inky purple. Size 3·78 by 2·23 inches. (Hume.) Hodgson's Hawk Eagle is a shy forest bird and confines itself to deep wooded hills ascending far into the interior of the Himalayas, where it feeds on pheasants, hares, and partridges.

**37. *Spizaetus cirrhatus*, Gmel.** *S. N.* i. p. 274; *Bp. Consp.* i. p. 29; *Hume, Rough Notes*, i. p. 206; *Sharpe, Cat. Acc. B. M.* p. 269. *Limnaetus cristatellus*, *Ferd. B. Ind.* i. p. 71, No. 35; *Holdsworth, P. Z. S.* 1872, p. 411; *Stray F.* vol. iv. 356; *id.* vol. vii. p. 33.—The CRESTED HAWK EAGLE.

*Adult Male.*—Head, nape, and upper back brown, the feathers with a mesial dark brown shaft streak; occipital crest 3·9 to 4·9 inches, black, with or without white tips, and with white bases. Cheeks and ear coverts pale brown the feathers with a very narrow mesial dark brown stripe; throat white, with a

broad white central streak and with a distinct moustachial stripe on each side; breast and upper abdomen pure white inclining to rufous, the feathers with a broad dark brown central stripe on the terminal half; lower abdomen, vent, under tail coverts, and tibial plumes uniform brown, also the lower back, rump, and upper tail coverts. Under wing coverts rufous brown, with dark shaft stripes; the lower series white, centred or barred with blackish brown. Axillaries a paler brown. Quills brown, barred with darker brown. Secondaries tipped with buff or buffy white, the innermost paler than the back, and the barrings very conspicuous. Wing coverts dark brown, the greater series margined paler. Tail pale brown with three and a broad sub-terminal dark brown band, broader than the interspace between it and the next. Cere pale yellow, feet and iris yellow.

*Length*.—Male 25 to 26 inches; wing 16; tail 11; tarsus 3·9 to 4.

*Female*.—Length 29 to 32 inches; wing 17·5 to 17·8; tail 12·51 to 12·57; tarsus 4·1.

*Hab*.—Central and Southern India, the Central Provinces, Guzerat, Ceylon and Nepal. It has been found in Travancore, the Western Ghauts, Madras, the Neilgherries, Seone, Raepoor, Etawah, Mundla and other localities in the Central Provinces; also at Mount Aboo, in Guzerat and South Concan.

Mr. Bourdillon in *Stray Feathers*, iv. 356, says of it, that it is very daring, frequently making a dash amongst chickens, when, if it misses, it retires to some neighbouring tree to concert a fresh plan of attack. It usually keeps to well-wooded tracts and feeds generally upon small birds as quail and pigeons, and at times on snakes and lizards; and Mr. Vidal in *Stray Feathers*, vol. vii. p. 31, adds that he had heard of one having been seen attacking a mongoose. Mr. Vidal has taken the eggs of this Hawk Eagle in the South Concan. He says it breeds during December and January and as late as April. The nests he says are large and comparatively deep stick structures loosely put together with the twigs hanging down untidily, built very high up, as a rule, in fork of trees. They are always profusely lined with green mango leaves. The old birds make no attempt to defend their nests. Out of 32 nests examined by Mr. Vidal, none contained more than one egg or one young bird. The largest egg measured 3 inches  $\times$  2·1 and the smallest 2·25  $\times$  1·85. In shape they vary greatly, but the usual type is a moderate oval pointed at the smaller end. Colour a dull greenish white, sometimes unspotted and sometimes faintly streaked at the larger end with reddish brown. It is unglossed and has a pale green lining.

**38. *Spizaetus alboniger***, *Blyth, J. A. S. B.* xiv. p. 173; *id.* xix. p. 335; *Wall. Ibis*, 1868, p. 215; *Sharpe, Cat. Acc. B. M.* p. 271. *Limnaetus alboniger*, *Hume and Davison, Stray F.* vi. p. 12. *Spizaetus nanus*, *Wall. Ibis*, 1868, pl. 1.—THE PIED-CRESTED HAWK EAGLE.

## PLATE.

*Adult*.—Crown, occiput, sides of the face and a broad throat stripe black. Occipital crest black, 2·25 to 2·75 inches in length and tipped with white; lores white. Chin and throat white. Breast white, tinged in some with ferruginous, each feather with a broad central spot. Rest of under surface of body, including tarsal and tibial plumes, also the flanks and lower tail coverts, white, barred transversely with blackish brown, narrowly on the flanks and tibial plumes and a little more broadly on the abdomen and lower tail coverts. Back, wing, scapulars, and upper tail coverts black. Quills paler, banded with black, tipped white, and with a subterminal black band. Under wing coverts white, barred or spotted with black. Tail ashy brown, tipped very slightly paler and with a subterminal and three other bands of black; the basal or third band hidden under the upper tail coverts.

*Length*.—21 to 22·5 inches; wing 12·13; tail 9·5; tarsus 3·3; culmen 1·4.

The young is paler brown above; the head and neck is a fawn brown; the occipital crest from 1·8 to 1·9 inch in length with white tips, and the scapulars, tertiaries, wing, and upper tail coverts tipped with white. The entire under surface is white or tinged with fawn colour, most marked on the breast. Under wing coverts pure white, and unspotted. Primaries blackish brown with transverse darker bands. Tail brown, tipped with white and with three broad transverse dark bands.

*Length*.—19·5 to 20 inches; wing 11·2 to 12; tail 9 to 9·5; tarsus 2·85 to 3.

*Hab*.—Tennaserim, Malacca, Borneo, and the Sunda Islands.

The Pied-crested Hawk Eagle is an inhabitant of dense forests near the foot of the hills at the extreme south of the Province of Tennaserim. Nothing is on record in regard to its habits and nidification.

**39. *Spizaetus limnaetus*, Horsf. Tr. Lin. Soc. xiii. p. 138.** *Spizaetus niveus*, Blyth. *Ann. Mag. N. Hist.* xii. p. 91; Sharpe, *Cat. Acc.* p. 272. *Spizaetus caligatus*, Gray, *Cat. Acc.*; Wall. *Ibis*, 1868, p. 13; Hume, *Rough Notes*, i. p. 198. *Spizaetus nipalensis*, Bly. *J. A. S. B.* xiv. p. 174. *Limnaetus niveus*, Tem. *Pl. Col.* i. pl. 127, *Jerd. B. Ind.* i. p. 70, No. 34; *Stray F.* vi. 11, n; vii. p. 94, 198, 246; viii. p. 44; ix. p. 373.—THE CHANGEABLE HAWK-EAGLE.

*Adult*.—Above and below deep chocolate brown, the head, back, quills, and tail darker, the shafts of the latter brownish and the inner webs of the quills ashy. Tail the same as the back, the under surface ashy white, brownish towards the tips and with irregular dark transverse bars. Occipital crest rudimentary, or none. Tarsi shorter than in *Cirrhatus*. Cere, feet, and the iris yellow. The young is described by Sharpe (*Cat. Acc. B. M.*) as being clear brown above with faint terminal margins of fulvous brown, the buff coloured bases showing very conspicuously on all the upper parts but

especially distinct on the wing coverts, which are also broadly margined with buffy white. Quills deep brown, the secondaries lighter and more purplish brown, broadly tipped with buffy white and indistinctly barred with darker brown, plainer on the inner web, especially underneath where it is ashy white on the primaries and greyish on the secondaries; lower back and rump pale brown; upper tail coverts brownish buff; tail brown, tipped with buffy white and crossed with 6–8 bars of darker brown. Under surface of body buffy white, washed with pale fawn colour on the sides of the body and thighs, with a few indistinct spots of the same on the breast. Head and neck whitish buff, washed with sandy rufous, and centred dark brown. Under wing coverts white, spotted with dark brown; tarsal plumes white, not extending beyond the point of the toes.

*Adult*.—Length 25 inches; wing 16; tail 11; tarsus 4·1; culmen 1·7.

*Young*.—Length 24 inches; wing 15·5; tail 9·5; tarsus 3·7. Irides brownish.

*Hab*.—The Concan, Deccan (rare), Central Provinces, N.-E. Cachar, Gurhwal, Lower Bengal, the Malayan Peninsula, Tennasserim, Java, Sumatra, Borneo, Ceylon and the Eastern Himalayas. According to Mr. Thompson, in Hume's *Rough Notes*, p. 198, the breeding season of this eagle commences in March and lasts till the end of June. The nest is usually placed on a high tree in a locality good for game, but in dense woods. Eggs usually two. In Gurhwal it is commonly known as Moorhaitah or Peacock-killer.

#### Gen. *Circaetus*.—*Vieill.*

Bill short, gradually curving from the base, much hooked at tip. Nostrils oval, oblique. Wing long, more than once and a half the length of the tail. 3rd quill longest. First three quills emarginate. Tarsi plumed below the heel. Toes scutellate at base of the claws.



**40. *Circaetus gallicus*, Gmel. Syst. Nat. i. p. 295; Vieill. Nat. Hist. Dict. vii. p. 137; Gray, Gen. Birds, i. pl. 16; Jerdon, B. Ind. i. p. 76, No. 38; Hume, Rough Notes, i. p. 217; Shelley, Birds of Egypt, p. 202; Sharpe, Cat. Acc. p. 280; Hume, Str. Feathers, vii. 74, 199, 503; Murray, Hdbk. Zool. &c. Sind, p. 110; id. Vert. Zool. Sind, p. 79.—The COMMON SERPENT-EAGLE.**

**Adult Male.**—Above dark brown with a purplish gloss; the wing coverts rather paler, especially on their margins; head rather more ashy brown; the forehead, lores, sides of face, and chin whitish with narrow hair-like lines of black, a streak of which overhangs the eyebrow. Cheeks, hinder ear coverts, and sides of the neck brown. Under surface of body white; the throat narrowly streaked with brown, and with a distinct central dark shaft stripe; chest white, streaked with brown; flanks barred brown at wide intervals, the bars disappearing on the thighs and under tail coverts, which are almost entirely white; under tail coverts and axillaries white with irregular spots or bars of brown. Quills black; secondaries browner, the outer ones glossed with purplish and narrowly tipped with white. Inner lining of quills white, excepting the tips and inner margins of primaries, which are deep brown; secondaries barred with dark brown, the subterminal band broad. Some of the upper tail coverts notched externally and tipped with white. Tail brown, tipped with white and crossed with three dark or blackish brown bars. Cere whitish, tinged bluish grey. Bill pale bluish grey at base, blackish horny at tip. Iris bright or orange yellow.

**Length.**—Male 26 inches; culmen 2·15; wing 19·65; tail 11·5; tarsus 3·7.

**Adult Female.**—Larger. **Length** 31 inches; wing 21·3; tail 12·5; tarsus 4.

**Hab.**—Sind, Punjab, N.-W. Provinces, Bengal, the Concan, Deccan, Kutch, Kattiawar, Behar, Nepal, and Rajputana. Said to be found throughout the Indian Peninsula and all the countries bordering the Mediterranean, extending into South-Eastern Europe. Breeds in Upper India (Gurhwal, Etawah, *Hume*); also in Palestine (*Tristram*) during January, February, March, April and May on high trees. *Hume* (*Rough Notes*) says, that from between forty and fifty nests, taken by himself and friends, never more than a single egg was obtained from any one. The eggs are typically broad ovals, with a slightly pyriform tendency, of a bluish white colour and invariably spotless. Mr. *Tristram*, in his *Ornithology of Palestine* (*Ibis*, 1865), remarks that of the eggs he took at Carmel and Heshbon, east of the Dead Sea, one was prettily spotted and the others were white.

### Gen. *Spilornis*, Gray. *Hæmatornis*, Vigors.

Bill straightened at the base; wings short; head crested, crest feathers rounded. Other characters as in *Circæetus*.

**41. *Spilornis cheela***, *Lath. Ind. Orn.* i. p. 14; *Bp. Consp.* i. p. 17; *Strickl. Orn. Syn.* p. 17; *Jerd. Birds of Ind.* i. p. 77, No 39; *Hume, Rough Notes*, i. p. 222; *Hume, S. F.* i. p. 306; *Sharpe, Cat. Acc.* p. 287; *Murray, Hdbk. Zool. &c. Sind*, p. 110; *id. Vert. Zool. Sind*, p. 80. *Circæetus cheela*, *Gray, Cat. Acc.* p. 18.—THE CRESTED SERPENT-EAGLE.

*Young*.—Above brown, with large spots of dark brown near the end of each feather, which is slightly tipped with fulvous, the bases of the feathers white; the upper tail coverts tipped and barred on the outer web with the same; wing coverts blackish brown, the least ones apically margined with white; the greater series whitey brown, more or less entirely white on inner web, mesially streaked with dark brown, widening into a spatulate apical spot. Quills dark brown, tipped with white; the secondaries more broadly barred across with blackish brown, very distinct underneath, where the inner webs are for the most part white. Tail ashy brown, tipped with white, and crossed with three broad bands of darker brown. Head and neck all round white, with a narrow shaft stripe and a diamond-shaped apical spot of dark brown. Ear coverts and cheeks nearly uniform brown. Under surface of body white, with broad streaks of brown on the breast, becoming very narrow and linear on the flanks; thighs narrowly barred with brown. Under wing coverts white, with large oval spots of rufous brown on the innermost, and having bars of brown on the lower series.

*Adult Female*.—Head much crested, jet black, with conspicuous white bases to the feathers, those of the nape tipped with dull ochraceous; rest of upper surface of body purplish brown, paler on the interscapular region; the wing coverts blacker, with remains of white tips, which are less distinct on the scapulars, but very broad on the upper tail coverts. Quills brown, tipped with white and mottled slightly on the outer web, but more on the inner with the same; all the quills dark brown at base and having a broad subterminal band of blackish brown, the primaries showing a second dark brown band near the base; the inner web of the quills below whitish, showing the bands very distinctly. Tail black, narrowly tipped with whitish and crossed with a very broad median band of pale whitey brown; sides of face and chin blackish with a distinct greyish band, the latter showing slight tips of fulvous to the feathers; rest of under surface pale ochraceous brown, with distinct but irregular transverse lines of dark brown; the rest of the under surface with large white spots, rather oblong in shape, mostly margined above and below with black, changing to bars on the thighs and under tail coverts. Under wing coverts and axillaries light rufous with very distinct oval spots of white.

*Length*.—30 inches; culmen 2·25; wing 20·5; tail 13; tarsus 4·5.

*Adult Male*.—Smaller. Length 28 inches; wing 18·5; tail 12; tarsus 4·5. Chest perfectly uniform brown with no traces of cross barrings on the under surface; breast and lower parts very largely and distinctly spotted with white; cere, loreal skin, and gape bright yellow; bill slaty plumbeous at base, bluish black at tip and on culmen; feet pale dingy yellow; iris intense yellow. (Sharpe).

*Hab*.—Sind, in the Narra Districts, and in well-wooded situations; also the Concan, Lower Bengal, Himalayas, Nepal, Assam, and Burmah; not uncommon.



mon in the Panjab (Shaharunpur District). Breeds throughout the sub-Himalayan ranges and regions as far west as Kangra at heights from 2,500 to 5,500 feet above the sea level, laying in March, April and May. Nest usually in the vicinity of water, built in the fork of a tree, circular, loosely made of sticks and twigs lined with fresh leaves and roots of grass. Eggs usually one in number, mottled and streaked with dingy brick-red and blood-red; ground colour white. Size 2·8 × 2·25 inches. Mr. Hume, in his *Rough Notes*, gives a good compiled account of the nidification of this species.

**42. *Spilornis melanotis*, *Ferd. Madras Journ.* xiii. p. 165; *Sharpe, Cat. Acc. B. M.* p. 289, Sub-sp. a; *Davison and Wenden, Stray F.* vol. vii. sp. 74; *Ball. id.* p. 199; *Vidal, Stray F.* ix. p. 33; *Butler, id.* ix. p. 373 *Hæmatornis spilogaster, Bly. J. A. S. B.* xvi. p. 351. *Spilornis spilogaster, Blanf. J. A. S. B.* 1871, p. 270. *Spilornis davisoni, Hume, Stray F.* i. pp. 305, 422; *id.* iv. pp. 281, 358. *Spilornis rutherfordi, Swinh. Ibis*, 1870, p. 85; *id. P. Z. S.* 1871; *Wald. Ibis*, 1870, p. 298. *Spilornis bacha, Holds. (non Le Vaill) P. Z. S.* 1872, p. 412.—THE SOUTHERN OR LESSER HARRIER EAGLE.**

Similar to *Spilornis cheela*, but smaller.

Cere, orbital skin, and legs yellow; irides orange; bill bluish, black at the tip. The following are comparative measurements of this species and *S. cheela* in inches.

	<i>S. cheela.</i> Adult.	<i>S. melanotis.</i> Adult.
Length .....	28 to 30	24 to 26.
Wing .....	18·5 to 20·5	15 to 16·8
Tail .....	12 to 13	10·8 to 12·5
Tarsus .....	4·15 to 4·5	3·65 to 3·75

*Hab.*—Central and Southern India, the Andamans to Ceylon and China. Occurs in both Northern and Southern Concans, the Deccan, Travancore, Raipoor, and other localities in the Central Provinces from the Ganges to the Godavery, Orissa, and also in Lower Bengal.

The Lesser Harrier Eagle affects marshy and hilly forest tracts, especially where there are rice and other cereal cultivations. It feeds chiefly on frogs, mice, and small birds. The only record of its nidification is in a paper in *S. F.* by Mr. Vidal on the Birds of the South Concan. Two nests were taken by him during March, and the eggs in his possession measured respectively 2·75 × 2·25 inches and 2·65 × 2·12 inches. They are said to be broad ovals, slightly pointed at the smaller end, white, streaked all over with reddish brown, and with a confluent cap of the same shade at the large end.

**43. *Spilornis pallidus*, *Wald. Ibis*, 1872. p. 363. *Spilornis cheela, Wall. Ibis*, 1868, p. 15; *Hume, Stray F.* iv. 281; *id.* vii. p. 513; *id.* viii. p. 44.—THE PALE HARRIER EAGLE.**

*Adult Male.*—Crown of the head black with an elongate occipital crest, which is black with white bases to the feathers. Feathers of the nape with slightly rufous tips; sides of the face and throat clear bluish grey, of the neck and chest uniform pale brown. Above pale brown with indistinct margins of fulvous brown to the feathers, the scapulars slightly tipped with white, the upper tail coverts broadly so, and the wing coverts with two white spots at the tip of each feather. Quills ashy brown, tipped with buffy white, and with a broad subterminal and basal blackish brown band. Tail dark brown, tipped with buffy white, and crossed with a broad median band of pale whitey brown shaded with ashy. Under surface of body pale brown spotted with white; on the thighs and under tail coverts the spots take the form of bars; under wing coverts the same, but paler and more rufescent.

*Length.*—21 inches; culmen 1·8; wing 14; tail 8·8; tarsus 3·25 (*Cat. Acc. B. M.*)

The young female is described by Sharpe as pale brown above, with lighter margins. Crown of the head white with a black terminal spot; the body below pale brown; the throat and chest vermiculated with cross lines of dark brown, with a few white spots on the abdomen, turning to bars on the thighs and under tail coverts. Tail brown at base with two broad black bands, the basal one with slight indications of a whitish band immediately preceding the lower of the two and a broad subterminal whitey brown band.

*Length.*—24·5 inches; wing 14·3; tail 9·4; tarsus 3.

*Hab.*—The Malay Peninsula, Tennaserim, British Burmah, Borneo, Sarawak. This is a doubtful Indian species, but I have given a description of it owing to two skins, received from Mr. E. Whimper, being labelled Tennaserim and British Burmah.

Gen. **Butastur**, *Hodgs. J. A. S. B.* xii. p. 311.

Bill short. Edge of mandible scarcely festooned; nostrils small, oval, with a superior membrane. Wings reaching nearly to end of tail; 3rd and 4th quills subequal and longest; the first four emarginate.

**44. Butastur teesa**, *Hodgs. J. A. S. B.* xii. p. 311 (1843); *Sharpe, Cat. Acc.* p. 295; *Murray, Vert. Zool. Sind*, p. 87. *Poliornis teesa*, *Kaup. Classif. Saug. u. Vog.* p. 122; *Gray, Gen. Bird*, i. p. 30; *Jerd. B. of Ind.* i. p. 92, No. 48; *Hume, Rough Notes*, ii p. 286; *id. Stray Feathers*, p. 159; *Murray, Hdbk. Zool. &c. Sind*, p. 115 (1873).—The ZUGGUN FALCON or WHITE-EYED BUZZARD.

*Adult Male.*—Above umber or pale rufous brown, the feathers margined paler, and with dark shaft stripes. Forehead and a nuchal mark white. Ear coverts light brown, the feathers very lax. Lores white, with elongate stiff hair-like feathers, the edges of the under mandible also with stiff bristles. Rump and upper tail coverts rufous brown, the rump with dark shaft stripes, and the upper tail coverts with dark cross bars. Tail pale rufous, tipped

with buffy white and crossed with 6—7 indistinct bars, the subterminal one black, and broadest; wing coverts like the back, the median series mottled light brown and whitish. Primary coverts dark brown, externally shaded greyish. Outer webs of primaries dark brown, frosted over with ashy grey, and broadly tipped with darker brown. Inner web pale brown between the black tip and emargination of the first four quills, and white beyond, with a few faint dark incomplete bars. The secondaries pale brown, half the inner webs, with 4—5 bars of dark brown and tipped darker; outer web of the secondaries pale brown with a rufous tinge, tipped blackish, and with faint traces of transverse bars. Chin and throat white or yellowish white, bordered on each side with a black moustachial stripe from the base of the lower mandible, and one of the same colour down the centre of the chin and throat. Breast pale rufous brown, with yellowish white or fulvous spots, the feathers dark shafted. Rest of under surface buffy white, barred with rufescent brown. Under wing coverts white, some of the feathers streaked and spotted with rufous brown. Thigh coverts pale fulvous or buffy white, most of the feathers with a subterminal triangular patch of rufous brown. Vent and lower tail coverts white, some of the feathers with a subterminal band or triangular patch of rufous brown; under surface of tail feathers greyish white, the transverse band showing through in all but the exterior feather.

Legs and feet dingy orange yellow. Iris pale yellowish white. Eyelids orange yellow.

*Length*.—16·75 to 18·5 inches; culmen 1·4; wing 11 to 12·5; tail 6·56 to 7·8; tarsus 2 to 2·55.

*Hab.*—Throughout India to British Burmah and Malaya to Assam and Nepal. Recorded from Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Nepal, Behar, Kattiawar, Deccan, Concan, Cutch, Rajputana, and N. Guzerat.

The White-eyed Buzzard is plentiful in all the places where it is known to occur. Not unlike the Kestrel its flight is very rapid, and living as it does on rats, lizards, frogs, crabs, and insects, it is always seen flying low, skimming along just above the ground. It affects bare plains, low jungle, cultivated ground, and marshy tracts.

Breeds nearly throughout India from January to April, nesting on high trees and laying three eggs of a pale bluish colour, a broad oval in shape and varying in size from 1·4 to 1·9 inches. Mr. Hume says the parent birds are much attached to their nests and hang about them for many days after they have been robbed, and at times will lay in them a second time.

**45. *Butastur liventer*, Tem. Pl. Col. i. pl. 438. *Buteo liventer*, Cuv. *Regne. Anim.* i. p. 37. *Poliornis liventer*, Kaup. *Classif. Saug. u. Vog.* p. 122; *Wall. Ibis*, 1868, 11; *Hume, Stray F.* i. 319; iii. p. 31; iv. 299; vi. p. 21.**

*Adult Male*.—Whole head and neck all round are a pale earthy or grey brown, the feathers darker shafted; lores whitish; chin and throat more or less

faintly streaked with white; breast like the neck, but with faint traces of obscure rufescent bars, all the feathers darker shafted; sides and abdomen the same; tibial plumes, vent, lower tail coverts and the whole lower surface of the wing, except the primaries beyond the notches on the inner web, pure white; axillaries white, with close-set transverse bars of brown and rufous. Quills, primary greater coverts, and winglet a rich chestnut red, tipped more or less broadly with brown, darkest on the primaries; the outer webs of the second to the 5th primaries from above the emarginations pure white, the red portions of the inner webs with a few widely distant narrow dark brown transverse bars, the outer webs with traces of similar bars. The first four primaries conspicuously notched on their inner webs; the 3rd, 4th, and 5th somewhat emarginate on their outer webs. Rump and upper tail coverts a rich more or less rufous brown, each feather darker shafted; *tail bright chestnut*, tipped white or rufous white and with a moderately broad transverse subterminal black band on both webs; the central and outer feathers exhibit two or three narrow transverse dark brown bars and a few black spots, traces apparently of these, the one about an inch and the other about two inches above the band just described, and the third just below the tips of the coverts; mantle a more or less rufous brown, some of the coverts faintly margined paler, and all the feathers darker shafted; lesser and median coverts browner and less rufous and more or less fringed with albescent. Longest scapulars brownish at the tips, bright chestnut above, and with traces of grey brown bars; primaries and secondaries narrowly margined towards the tips with dull white. Edge of the wing white; lower surface of the tail white, tinged purplish (*S. F.* iii. 31). The adult female (type of species) is described by Sharpe (*Cat. Acc. B. M.*). I have not seen a specimen, nor is one recorded in *Stray Feathers* as having been obtained by any one of Mr. Hume's numerous correspondents. The shaft stripes of the male is everywhere indicated in the female, but the coloration is paler. Tail rufous instead of bright chestnut, margined and tipped with ashy grey and *crossed with six blackish bars*, the subterminal one a little broader.

*Length.*—Male 14 to 14.5; expanse 35 to 37.5; tail 5.8 to 6.5; wing 10.7 to 11.5; tarsus 2.3 to 2.6; bill 1.2 to 1.4. Female larger. Bill pale orange yellow, the tip black. Cere, orbits, and feet yellow. Irides pale yellow.

*Hab.*—British Burmah and Siam to Celebes; occurring in Java (Sharpe), the Continent of India (Tem.). Dr. Armstrong has had it in the vicinity of Elephant Point, in the Rangoon district of the Irrawady Delta, where he says it is by no means common and frequents the extensive paddy fields, coursing along with a graceful swooping flight from one field to another. Messrs. Hume and Davison say that it is confined to the northern and central portions of the province of Tennascrim, and rare in the northernmost districts. Tonghoo (Lloyd and Ramsay), Kankaryit, Hongthraw, R. Thyetmoo, and Amherst are also given as localities.

It is said by Mr. Oates, (*S. F.* v. 141) to breed in British Burmah during March, laying 2 eggs of a pale greenish white colour without gloss. Size 1·81 × 1·45 inches. A second egg measured 1·86 × 1·47 inches.

**46. *Butastur indicus*, Gm. S. N. I. p. 264 (ex Lath).** *Buteo pygmæus*, *Blyth, J. A. S. B.* iv. p. 177. *Poliornis indicus*, *Gray, Cat. Acc.* 1848, p. 68. *Poliornis poliogenys*, *Gray, Gen. B. i.* p. 30; *Wall. Ibis*, 1868, p. 19; *Hume, Rough Notes*, p. 290; *Stray F.* vi. 19.—The GREY-CHEEKED BUZZARD.

*Adult*.—Above uniform hair brown, inclining to ashy on the head and upper back, and to rufous on the lower back, rump and upper tail-coverts, the latter barred and broadly tipped with white; forehead white; sides of the face clear grey; sides of the neck ashy brown; wing coverts and scapulars slightly tipped with rufous white, or rufous brown, and mottled with clearer rufous. Primary coverts rufous, broadly tipped with black. Quills rufous, narrowly tipped with buffy white; primaries brown externally and towards their tips, also barred with dark brown on their inner webs; the secondaries ashy brown, inclining gradually to whitey brown at their tips, washed with rufous and barred with dark brown; the lower surface of the wing creamy white on the inner webs of the quills, somewhat washed with rufous; tail ashy brown, whitey brown at tips, and crossed with three or four broad bars of blackish brown; the lower surface ashy white, the bars showing more plainly except on the outermost feathers, where they are obsolete. Throat white, with a mesial line of ashy brown, as well as two not very distinct moustachial stripes. Upper breast ashy brown, washed with rufous; the lower breast and abdomen barred with white and rufous brown, the rufous bars decreasing towards the vent and thighs and absent on the under tail coverts. Bill blue black, pale on the gonys and lower portion of the base of the upper mandible. Cere, irides, and feet yellow. (Sharpe.)

*Length*.—17 to 18·5 inches; wing 13·12 to 13·15; tail 7·9 to 8; tarsus 2·4; bill from gape 1·3.

The adult female is larger than the male. Length 18·5 to 18·8 inches; wing 13·6 to 13·8; tail 8·4; tarsus 2·45; bill from gape 1·45.

The young is considerably different from the adult. The crown, occiput, nape and sides of the neck are brown; the feathers of the crown and hind neck margined with creamy white and slightly washed with rufous. Forehead and eyebrow creamy white, also the fore part of the cheeks. Breast buffy white, with lanceolate rufous brown shaft stripes and spots. Under tail coverts creamy buff; also the under wing coverts, but with a few rufous brown markings. Axillaries barred. Tail ashy brown, tipped with pale rufous brown, and crossed with five bars of darker brown. Throat with a central dark streak.





*Hab.*—Borneo, Sumatra, and the Phillipine Islands, also Tennaserim. Recorded localities from the latter are Amherst, Mergui, Pakchan and Bankasoon. Hume and Davison (*Str. F.* vol. vi. p. 19) state that it seemed to be of a confiding and somewhat indolent disposition, preferring to seat itself on some dry tree or other point of vantage from whence it keeps a look out for lizards and locusts, &c., of which its food seems principally to consist.

Gen. **Haliætus**, *Savigny*.

Bill straight at the base, longish, compressed, curved towards the tip, which is much hooked; margin of upper mandible sinuate; wings long; 4th and 5th quills sub-equal, longest; tarsus plumed for nearly half its length; lower half of tarsus scutellate.



**47. Haliætus albicillus**, *Linn. Syst. Nat.* i. p. 123; *Sharpe, Cat. Acc.* p. 302. *H. albicilla*, *Leach, Syst. Cat. Mam. &c., B. M.* p. 9; *Gould. Birds Eur.* p. 10; *McGillivray, Brit. B.* iii. p. 221; *Shelley, Birds of Egypt*, p. 204; *Hume, S. Feathers*, i. p. 159; *id. Rough Notes*, p. 257; *S. Feathers*, vii. 341 467; *Murray, Hdbk. Zool. &c. Sind*, p. 111. *Falco albicilla*, *Gm. Syst. Nat.* i. p. 253. *Aquila albicilla*, *Pall. Zoogr. Rosso. As.* i. p. 345. *Haliætus pelagicus*, *Hume, Rough Notes*, ii. p. 252. *Haliætus brooksi*, *Hume, Ibis*, 1870, p. 438; *Murray, Vert. Zool. Sind*, p. 83,—THE EUROPEAN WHITE-TAILED SEA EAGLE.

*Male.*—The legs and feet bright orange yellow. Gape and portion of cere yellow, the upper portion being yellowish brown. Bill blackish horny; head, nape, cheeks, ear-coverts and sides of the neck hair brown, all the feathers white at their bases, in some for the basal half, in others for fully the basal two-thirds, but very little of the white showing through, the feathers being densely set; all the feathers of these parts long and linear, those of the occiput especially; the back of the neck, the whole of the back and rump, scapulars and wing coverts, except the greater primary coverts, as well as the feathers of the breast and abdomen a warm buffy fawn colour, changing to white at their bases, and more or less broadly tipped with hair brown; the longer scapulars and the upper tail coverts,—which latter are very broad and come down to within some four inches of the tip of the tail,—a mixture of yellowish and hair brown, mottled and freckled with white and yellowish white; tail, which is very wedge-shaped, dark brown, mottled all over with dingy yellowish white, which colour predominates on the inner webs; the quills, winglet, and greater primary coverts chocolate brown; the second to the 5th primaries conspicuously emarginate on



the outer web, and with a grey silvery tinge above the emarginations; the 1st to the 5th primaries conspicuously notched on the inner webs; the chin and throat pale buffy brown, the feathers whitish at the base and darker at the tips; the flanks and thigh coverts pale yellowish brown, the feathers tipped darker; the lower tail coverts dingy white, broadly tipped with brown, which in the longer ones is a dark hair brown: in the shorter a dull yellowish brown; wing lining a sort of umber brown, the bases of all the feathers paler, some of them fawn-coloured and some white.

*Female*.—The legs, feet, cere and gape a sort of brownish yellow; the upper mandible and claws blackish horny; the tip of the lower mandible yellowish horny; the whole of the head, nape, sides of the neck, cheeks, chin and throat pale yellowish brown; the feathers white, tipped with yellowish brown, which, owing to the feathers being closely set, is the predominant colour, especially on the top of the head; the ear coverts a darker brown; the whole of the back of the neck, back, rump and upper tail coverts, breast, sides, abdomen, vent, and lower tail coverts white, comparatively narrowly tipped with yellowish brown, and many of the feathers, with a narrow, linear, ovate, hair brown shaft spot near the tip. As in the male, the upper tail coverts are ovate lanceolate, very broad and long, and reach to within less than six inches of the end of the long wedge-shaped tail; most of the scapulars and the tail feathers are a mixture of dull dark and pale dingy yellowish brown, everywhere mottled and freckled with dirty white, which occupies almost the whole of the inner webs of the lateral tail feathers; the wing coverts, except the greater primary coverts, are wood brown, showing little or nothing of the white bases; most of the tertiaries are mottled white and dingy yellowish brown, like the tail; the secondaries are a dull, slightly rufous brown, much mottled on the inner webs with white, and the primaries are dark chocolate brown, greyish above the emarginations; some of the primary greater coverts are dark chocolate brown and others are a pale rufous brown. (*Str. F.* vii. 341)

The following is McGillivray's description quoted in *Stray Feathers*:—

*Male*.—The cere and bill are pale yellow; the iris bright yellow; the tarsi and toes gamboge; the claws black with a tinge of greyish blue; the plumage of the head, neck, forepart of the back and breast with the upper wing coverts greyish yellow, the feathers all greyish brown at the base; of the other parts greyish brown, edged with yellowish grey; scapulars and feathers of the rump glossed with purple; those of the abdomen, tibia and subcaudal region inclining to chocolate brown; the quills and alular feathers brownish black, with a tinge of grey, the inner secondaries inclining to chocolate brown; the shafts of all white towards the base; the lower surface of the quills and the large coverts tinged with greyish blue; the upper tail coverts and the tail are white (generally freckled with dusky grey at the base); the down on the breast pale grey, that on the sides darker.

*Length*, to end of tail, 36 inches; extent of wing 72 inches; bill along the ridge 3'41, along the edge of lower mandible 3; its height 1'41; wing from flexure 24 inches; tail 11'4; tarsus 4.

The female does not differ from the male in colour, and her superiority in size is often not very remarkable. Length, to end of tail, 40 inches; extent of wing 10; bill along the ridge 3'91; along the edge of lower mandible 3'33; its height 1'66; wing from flexure 27'5; tail 12 inches; tarsus 4'5 inches.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Beloochistan Coast, and Persia. On the Indus and the larger lakes or dhunds throughout Sind, especially on the Munchur Lake it is very common; also on the Jhelum, Chenab and Sutlej rivers. Sharpe gives its habitat as Greenland, Iceland, Faroe Islands, the whole of Europe and Northern Asia, Kamschatka and Japan, extending into China as far as Amoy.

The Erne or European White-tailed Sea Eagle is a bird of a very imposing aspect. It often assumes many elegant attitudes, especially when excited. Its habitat is always either near the sea on rocky prominences, or inland on the larger lakes, where it feeds upon fish, plunging into the water after the manner of the osprey. Aquatic birds also form part of its food. Of its breeding in India there is no information. Morris in his *British Birds* says it builds in March and sits very close, but is by no means so courageous as the Golden Eagle in defending its brood. The nest is about five feet wide, flat, and has only a slight hollow in the middle. It is a mass of stick, heather or seaweed, as the case may be, and lined with any soft material as grass, wool or feathers. It is placed on some precipice, or in the hollow of a crag or rock overhanging the sea, or else in some inland fastness. The eggs, one or two in number, are about  $3 \times 2\frac{1}{4}$  inches, white or yellowish white, thickly sprinkled over with reddish spots.

**48. *Haliæetus leucogaster*, Gm. S. N. i. p. 257; *Vig. Zool. Journ.* i. p. 336; *Jerd. B. Ind.* i. p. 85; *Sharpe, Cat. Acc. B. M.* p. 307; *Str. F.* ii. 149; iii. 324-335; iv. 422-461; vi. 17; vii. 199; ix. 32. *Cuncuma leucogaster*, *Hume Rough Notes*, i. p. 259; *Wall. Ibis*, 1868, p. 15.—THE WHITE-BELLIED SEA EAGLE.**

*Adult.*—Head, neck all round, breast, abdomen; under tail and wing coverts white; the outermost of the latter shaded with grey; the greater series ashy grey with white bases; body above ashy grey, shaded with brown. Primaries cinereous black; also the secondaries, but tipped narrowly with white; tail black, broadly tipped with white. Cere and orbital ridge bluish lead tinged with green; legs and feet yellowish. Irides olive brown.

*Length.*—28 to 30 inches; wing 22 to 24; tail 9 to 9'5; tarsus 3'1 to 4; bill from gape 2'25.

The adult female is larger. The young is described by Mr. Sharpe (*Cat. Acc.*)<sup>\*</sup> Head and neck dark brown, streaked with buffy white; throat sandy buff, the feathers paler centred; rest of under surface rufescent brown with distinct buffy shaft streaks widening towards the apex; under tail coverts for the most part white, irregularly mottled with reddish brown. Above brown, the feathers margined paler, and with dull whitish shaft stripes; lower back and rump rather darker than the rest of the back, and with distinct white streaks; quills deep brown; secondaries paler and tipped with buffy white; the quills with more or less distinct darker brown bars; tip of inner web whitish below for the greater part of its length; tail dark brown, tipped with whitish and crossed with three ill-defined bars of paler brown, much mottled with darker brown and shaded with whitish.

*Hab.*—The whole of India, including British Burmah and the Tennaserim province, also Assam and the Malay Archipelago, the Andamans and Nicobars. Occurs in the Concan, Deccan, Central, Northern and Southern India, Punjab, N.-W. P. and Bengal. A permanent resident in most parts, breeding on lofty trees.

Mr. Vidal has taken the eggs, in October, November and December, in the Southern Concan. The nests are gigantic platforms, built of strong, thick sticks, and are fully 5 feet in diameter. The normal number of eggs is one, and sometimes two have been found; they are greenish white, unspotted and glossless, from  $2.7 \times 2.04$  to  $3. \times 2.06$  inches. Mr. Vidal's experience is that the same nests are used year after year, after being repaired, and that they build on large trees in cocoanut and other gardens. As its English name implies, it feeds chiefly upon fish.

**49. *Haliæetus leucoryphus*, Pallas, *Reis. Russ. Reichs.* i. p. 454; *Keys. and Blas. Wirb. Eur.* p. xxx.; *Strick. Orn. Syn.* p. 52; *Hume, Rough Notes*, ii. p. 242; *Stray Feathers*, i. pp. 102-159; *Hume and Henderson, Lahore to Yarkand*, p. 173; *Blanford, Eastern Persia*, p. 112; *Sharpe, Cat. Acc. B.M.* p. 309; *Murray, Hdbk. Zool. Sc. Sind*; *id. Vert. Zool. Sind*, p. 111. *H. fulviventor*, *Ferd. B. Ind.* i. p. 82, No. 42. *Ichthyæetus leucoryphus*, *Blyth, Ann. and M. N. H.* xv. p. 37. *Cuncuma macei*, *Gray, Cat. Acc.* p. 23.—  
The RING-TAILED SEA EAGLE.**

*Adult Male.*—Above dark brown, with a slight purplish gloss; some of the greater coverts slightly margined with paler brown; quills blackish; the secondaries rather browner like the scapulars; the lower surface of the quills brown, inclining to bluish ash colour on the inner web of the primaries; some of the secondaries mottled with white near the base of the inner web; lower back, rump, and upper tail coverts purplish brown, some of the outermost of the latter whitish at base; tail white, blackish at base, with a broad black terminal band. Head, hind neck and interscapular region sandy-brown, the feathers of the head and hind neck streaked with fulvous. Sides of face

and throat buffy white, the latter with narrow whitish streaks down the centre of the feathers; rest of under surface of body dull fulvous brown, lighter on the chest, where the feathers are paler centered and deeper brown also on the flanks, thighs and under tail coverts. Under wing coverts and axillaries blackish brown, slightly mottled with white. Cere pale bluish green. Nostrils, gape, and base of lower mandible bluish. Upper mandible greenish horn colour, dusky at tip; feet greyish white; iris pale brownish yellow.

*Length*.—30 inches; culmen 2·6; wing 22·2; tail 12·2; tarsus 3·6. •

*Adult Female*.—Length, 33 inches; wing 24·4; tail 11·7; tarsus 4·3.

*Young*.—Above dark brown, the feathers of the back deeper brown towards their bases; the wing coverts lighter than the back, and the upper tail-coverts plainly margined with whitey-brown; greater coverts dark brown with whitey-brown tips; quills blackish, externally shaded with ashy; the innermost secondaries dark brown like the back; lower surface of quills ashy brown, some of the innermost primaries inclining to whitish on inner web; tail dark brown, shaded with ashy above and below; head, neck, and under parts fulvous brown, deeper on the head and varied with white bases to the abdominal plumes and under tail coverts; the head and neck rather darker than the under parts and streaked with sandy brown; the chest and breast feathers with broad whitey-brown margins and tips; under wing coverts dull brown, margined with paler brown; the median series streaked with whitey-brown, the greater ones ashy white at the base and mottled along the shaft towards the tip, which is also white; feet clear lemon yellow. (Sharpe.)

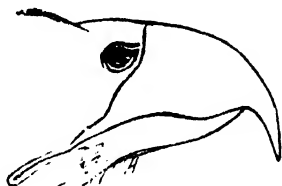
Mr. Hume (*R. N.* p. 245) describes a nestling female nearly able to fly as a nearly uniform dark brown above and lighter below; the legs and feet a clear pale lemon yellow.

*Hab*.—Sind, Punjab, N.-W. Provinces, Oudh and Bengal; Kutch, Rajputana, the Western Coast and the Concan; also Beloochistan, Persia and Afghanistan. Ascends the Ganges and other large rivers; found also in Nepal and Cashmere. In the Concan and along the Sind, Kutch and Kattiawar Coasts, it is known as the *Mutchee Mar* or *Mutchlee Mung*.

The Ring-tailed Sea Eagle is found throughout the year in Sind, along the Indus, and on the larger lakes. It breeds in the winter months (November, December and January), building a nest of twigs, &c., from 4 to 5 feet in diameter, inclusive of the outer thin layer, usually on high trees in the vicinity of water. Eggs usually 2, but I have found a third and fourth laid by the same bird a fortnight after taking the two first ones. In colour they are white or greyish white and unspotted, and measure  $2\frac{1}{4}$ —3 inches  $\times$   $2\frac{1}{4}$  to  $2\frac{1}{2}$ .

Gen. **Haliastur**.—*Selby*.

Bill stout, curved and hooked. Nostrils circular with bony margin all round. Wings very long, the 4th quill longest; tail slightly rounded; tarsi plumed at the knee, and covered with scutæ.



**50. Haliastur Indus**, *Bodd. Tabl. Pl. Enl.* 25; *Gray, Gen. Birds*, i. p. 18; *Jerdon, B. of Ind.* i. p. 101, No. 55; *Hume, Rough Notes*, ii. p. 316; *S. F.* vii. 251, i. p. 160; *Murray, Hdbk. Zool. &c. Sind*, p. 116; *Gray, Cat. Acc. B. M.* p. 313. *Haliæetus indus*, *Sch. Mus. P. B.* p. 19.—The MAROON-BACKED KITE.

*Adult*.—Head, neck, throat, entire breast, and as far as the middle of the abdomen white, with dark brown shaft stripes; rest of the plumage maroon, or rufous chestnut, paler on the secondaries, the tail paling into a fulvous white at the tip. Quills black, rufescent at the base of inner web; under wing coverts deep maroon, with dark shaft stripes; cere brownish; feet greenish yellow; irides brown.

*Length*.—20 to 21 inches; wing 14·75 to 16; tail 7 to 8.

The young bird is a rather deep brown above, the feathers tipped with rufous. Head, neck, and lower parts pale rufous, streaked paler.

*Hab*.—India and Ceylon. Recorded from Sind, the Punjab, N.-W. Provinces, Kutch, Kattiawar, Ajmere, Concan, Deccan, Tranvancore, Upper Pegu, Nepal. Breeds wherever it occurs from the middle of February to the beginning of April. The nest is always on a tree near by water, and is not unlike that of *Milvus govinda*. The normal number of eggs is two, but it is not uncommon to find three. In shape they vary much; but typically they are very perfect, moderately broad ovals, slightly compressed towards one end; in colour greyish white, speckled or spotted with pale dingy brown or reddish brown. Size 1·89 to 2·28 × 1·5 to 1·79.

Gen. **Milvus**.—*Cuv.*

Bill short, straight at the base, well curved and hooked at tip. Upper mandible with a rounded festoon. Nostrils oval, oblique. Wings long. Tail forked or emarginate. Tarsi short, plumed at the knees, and with scutæ in front below.

**51. *Milvus govinda*, Sykes, P. Z. S. 1832, p. 81; *Ferd. B. of Ind.* p. 104, No. 56; *Hume, Rough Notes*, ii. p. 320; *Sharpe, Cat. Acc. B. M.* p. 325; *Stray Feathers*, i. p. 160; *Murray, Hdbk. Zool. &c. Sind*, p. 116; *id. Vert. Zool. Sind*, p. 90.—The COMMON PARIAH KITE.**

*Adult Male*.—Above brown or rufous brown, the head and neck rufescent with dark central stripes. Scapulars and wing coverts edged with buff, the wing coverts with dark central stripes. Quills and greater coverts dark brown, the quills albescent near the base and mottled with brown. Tail ashy brown, tipped with buffy white and barred with brown; the under surface pale brown or whitish, and also mottled and barred. Throat albescent with brown shaft stripes. Under parts dull rufous brown, buffy on the vent and under tail coverts, and with brown shaft stripes. The feathers of the breast somewhat fulvescent. Under wing coverts rufous brown, with dark brown centres to the feathers. Cere and gape yellow. Bill horny black. Feet yellowish. Irides yellowish.

*Length*.—20 to 23 inches; wing 18.5 to 19; tail 13; tarsus 2.25.

*Hab*.—Throughout India. A resident scavenger. Breeds on house tops, old mosques, and flat-roofed buildings,—seldom on trees,—during January, February, and March. It occurs also in Beloochistan, Afghanistan, and Nepal.

**52. *Milvus melanotis*, Tem. et Schleg. Faun. Jap.; Blanford, J. A. S. B. 1872, p. 153; Gray, Gen. Birds, i. p. 24; S. F. i. p. 160; *id.* iii. 229; Sharpe, Cat. Acc. Br. Mus. p. 324; Murray, Zool. &c. Sind, p. 116. *Milvus major*, Hume, *Rough Notes*, ii. p. 326; Murray, *Vert. Zool. Sind*, p. 91.—The LARGE PARIAH KITE.**

*Adult Male*.—Above dark chocolate brown, all the feathers distinctly streaked down the centre with black; the wing coverts a little paler brown, the lesser series washed with rufous, all with distinct black shaft stripes. Greater coverts and quills dark brown, the secondaries paler brown, the primaries blackish, all the quills distinctly white at the base of the inner web, and sometimes mottled with brown. Tail rather pale brown, the centre feathers with a slight rufous tinge and distinctly barred with darker brown; these bars are distinct on the inner web only of the outer feathers. Under surface of tail brownish ashy, the bars more or less distinct. Lores, forehead, cheeks and throat white, with distinct shaft lines of dark brown; ear coverts dark brown; throat white, tinged with rufous on the lower part. Breast deep rufous brown, shading into clear rufous on the abdomen and under tail coverts; the feathers on the breast margined lighter and with broad central dark streaks. Under wing coverts dark brown, dashed with rufous; the lower ones ashy brown, notched or barred with white on their inner webs. Cere pale greenish yellow. Bill horn black. Feet dull yellow. Irides reddish brown.

*Length*.—25·5 inches; wing 21; tail 13·2; tarsus 2·5.

There is yet a set controversy in regard to the distinctness of this species from *M. govinda*. Mr. Edwin Brooks, in vol. iv. *S. F.*, says that from an examination of the type of *M. govinda* in the South Kensington Museum, he concludes that *M. melanotis* (T. and S.) and *M. major* (Hume) must be considered as synonyms of *M. govinda* (Sykes). Schlegel again unites *melanotis* and *govinda*, but Mr. Hume holds that the pure white wing patch of *major* distinguishes it equally from *melanotis*, *govinda* and *affinis*, a third species found in India, also by its larger size.

The following comparative measurements are given by Mr. Hume:—

	Wing, Male.	Wing, Female.
<i>M. govinda</i> .....	17·5 to 18 .....	18 to 19·5
<i>M. major</i> .....	19 to 20·5.....	19·45 to 21
<i>M. affinis</i> .....	16 to 17·5.....	17 to 17·75

*Hab.*—Throughout India, Japan, and China; also Nepal and Eastern Turkistan.

**53. *Milvus affinis***, Gould. *P. Z. S.* 1837, p. 140; *id. B. Austr.* i. p. 21; Wall. *Ibis*, 1868, p. 13; *Jerd. Ibis*, 1871, p. 343; *Sharpe, Cat. Acc. B. M.* p. 323; *Str. F.* i. p. 160; vii. 44-200; *Murray, Vert. Zool. Sind*, p. 91.—The MALAYAN OR LESSER INDIAN KITE.

Head pale brown, or rufescent brown, the feathers darker streaked; lores and ear coverts blackish; chin whitish, with distinct black shaft stripes, under surface of body dull rufous brown, inclining to dusky on the chest and flanks—all the feathers distinctly but narrowly streaked with black along the shaft; back blackish brown, the wing coverts paler, and with distinct shaft stripes; primaries blackish; secondaries paler; under surface of wing pale brown, ashy near the base; tail dark brown, ashy beneath, with remains of dark on the centre feathers; under wing coverts rufous brown with blackish shaft stripes; cere and feet yellow; bill blackish; irides brown.

*Length*.—20 inches; wing 16 to 17·5; tail 10·7; tarsus 2·05; culmen 1·55. *Females* larger.

*Hab.*—Sind, Punjab, N.-W. Provinces, Central and Southern India, Ajmere, Bengal, the Deccan, British Burma (Upper Pegu); Maccassar, Celebes, Timor, Chusan, and Australia.

Common throughout India nearly; habits the same as *M. govinda*.

**54. *Milvus korschun***, Gm. *N. Com. Petrop.* xv. p. 444; *Strickl. Orn. Syn.* p. 133; *Blf. Geol. Zool. Abyss.* p. 300; *Shelley, Birds Egypt*; *Sharpe, Cat. Acc.* p. 322. *Falco ater*, Gm. *Syn. N.* i. p. 262; *Bree. B. Europe*, i. p. 101. *Milvus niger*, *Bp. Comp. List. B. Eur. and N. Am.* p. 4.

*Adult Male*.—Crown, sides of the head and nape white; the forehead narrowly and the other parts broadly striped with blackish brown; upper parts dark hair brown, with a metallic gloss on the back; the feathers on the hind neck with dark central stripes, those of the wing coverts and a few of the scapulars with lighter edges; primaries black, excepting some of the inner ones, which are deep brown; secondaries blackish brown, the inner ones assimilating in colour to the back; tail like the back, but slightly duller and a trifle grey in tinge, and with scarcely perceptible darker bars, being also but slightly forked; throat dull white, striped with blackish brown; breast clove brown with blackish stripes; rest of the under parts deep ferruginous, each feather with a dark shaft line; under wing coverts rufous, varied with deep brown; bill blackish horn, yellowish at the base of the lower mandible; cere pale yellow; iris greyish, with a yellow tinge surrounded by a black line; legs pale yellow; claws black. Total length about 32 inches; culmen 1·6; wing 17·0; tail 11·2; tarsus 2·25.

*Female*.—Resembles the male, but is somewhat larger in size, rather darker, and a trifle more rufous in general colouration.

*Young*.—Upper parts of a much duller brown than the adult; the feathers tipped with yellowish white, which gives it a very spotted appearance; crown and nape with these terminal spots much larger, so as almost to hide the rest of the feathers; throat brownish white, the feathers with dark shafts; rest of the under parts dull dark brown, becoming dull reddish brown on the abdomen, every feather with the terminal portion, except on the edge, dull horny colour, which gives the under parts the appearance of being marked with elongated oval spots of this latter colour; quills and tail as in the adult; but the latter is tipped with dull brownish white, and the bars are more conspicuous.—(Dresser, *Birds of Europe*.)

*Hab*.—Upper Sind Frontier, Beloochistan, and Southern Afghanistan; Africa, Madagascar, S. and W. Europe. Breeds nearly throughout Afghanistan and Beloochistan during March. Eggs, in size, shape and colour the counterpart of *M. gorinda*.

#### Gen. **Elanus**.—*Savigny*.

Bill small, ridge (without cere) greater than half of middle toe without claw; tip much hooked and lengthened; edge of upper mandible slightly sinuate. Cere small; nostrils oval. Loreal space feathered. Wings reaching to end of tail, pointed; 2nd quill longest; the 1st emarginate near the tip. Tail short. Tarsi short, plumed above, covered with small round scales. Middle claw keeled.

**55. *Elanus caeruleus***, Desf. *Mem. Acad. R. des Science*, p. 503, pl. 15. *Falco melanopterus*, Daud. *Traite*, ii. i. p. 152; Bree, *Birds Eur.* i. p. 108. *Elanus melanopterus*, Leach, *Zool. Misc.* p. 5; Jerd. *Birds of Ind.* i. p. 112.



No. 59; *Sharpe, P. Z. S.* 1869, p. 570; *Hume, Rough Notes*, ii. p. 21; *Str. F.* i. pp. 21, 163; *Murray, Zool., &c., Sind*, p. 117; *id. Vert. Zool. Sind*, p. 92.—The BLACK-WINGED KITE.

*Adult*.—Entire upper parts ashy grey, lighter on the head; forehead, eyebrow, lores and sides of face white; ear-coverts ashy grey; supercilium dark brown or black; lesser and median wing coverts and winglet glossy black; greater coverts concolourous with the back. Axillaries and under wing coverts white; inner lining of wing dark grey; primary coverts and quills ashy grey, the latter white at the base and black-shafted. Tail ashy, the two centre feathers greyish; entire under parts white. Cere, orbits, and feet yellow; bill black; irides crimson.

*Length*.—13 inches; wing 10·6 to 11; tail 5·6; tarsus 1·4.

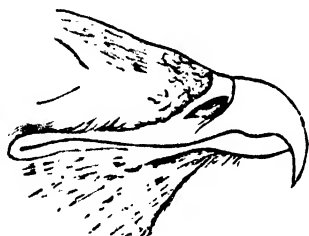
*Hab*.—South-Eastern Europe, Africa, India and Ceylon. Very widely distributed. Recorded from Egypt, Gambia, Transvaal, South Africa, and the Mediterranean; also from Kutch, Kattiawar, Jodhpore, Sambhur, North Guzerat, the Concan and Deccan, Pegu, Burmah and Nepaul. Breeds almost throughout Upper India. Nest circular, composed of small twigs and sticks, and lined with fine grass roots and fibres. Eggs, bluish white or creamy, streaked and blotched with pale yellowish brown or brownish red.

As to the habits of this species there is not much recorded; it usually flies low, skimming above the surface of the ground, or hovers in the air much like a kestrel, but dropping suddenly to the ground. It is not uncommon to see it perch on telegraph wires, on the bare end of a bough, or on some dry tree in the vicinity of water. It feeds chiefly on rats, mice, beetles, grasshoppers, and other insects.

It is a resident in Sind, and affects chiefly the acacia forests lining the banks of the Indus. Breeds in the Narra districts from June to August.

#### Gen. *Machæramphus*.—*Westermann*.

Bill small, feeble, and keeled; culmen, with a sharp cutting edge, which has two faint sinuations on the upper mandible; cere small; nostrils long, oblique, pierced near the margin of the cere; loreal plumes produced above half the nostril; tail of 12 feathers; tarsi feathered in front for three-fourths of an inch, reticulate; outer and inner toes, with claws of the same length.



**56. *Machæramphus alcinus*, Westerman, *Bijd. tot. d. Dierk.*, i. p. 29, pl. 12; Sharpe, *P. Z. S.* 1871, p. 502; *id.* *Cat. Acc. B. M.* p. 341; Hume, *Stray F.*, iii. p. 269; *id.* Vol. vi. p. 24.**

*Adult Male*.—Black throughout, shaded with brown; throat and front of the neck white; chin with a diamond-shaped patch of black, continued as a line down the centre of the throat; breast white; a band of white above and below the eye; head with an occipital crest of pointed lanceolate feathers; irides bright yellow; bill and claws black; legs and feet pale plumbeous; cere black.

*Length*.—18·0 to 18·5 inches; expanse 46·0; tail 7·37; wing 14·62; tarsus 2·5; bill, from gape, 1·8; from edge of cere to point (straight) 0·75; greatest height of upper mandible 0·4.

*Hab*.—Southern extremity of the Tenneserim provinces at Malewoon, and Malacca.

The above particulars as to the colors of the soft parts and measurements have been extracted from Mr. Hume's notice of the species in *Str. F.*, vol. iii. Mr. Sharpe does not seem to have had a specimen to describe them. Of the habits of this remarkable species I have no information. The wood-cut of the head and bill is that of an allied species, *M. Anderssoni*, copied from Mr. Sharpe's work, to show their peculiar structure.

#### Gen. *Pernis*.—*Cuv.*

Bill curved from the base; the margin straight; lores clothed with scale-like feathers; tarsi short, reticulate, half plumed in front; scales on toes transverse; wings and tail long.

**57. *Pernis ptilonorhynchus*, Steph. *Gen. Zool.* xiii. pl. 35; Holdsw. *P. Z. S.* 1872, p. 414; Sharpe, *Cat. Acc. B. M.*, p. 347. *Pernis cristata*, *Cuv. Regne An.*, i. p. 335; *Ferd. B. Ind.*, i. p. 108, No. 57; Hume, *Rough Notes*, ii. p. 330. *Stray F.*, vol. iii. p. 448, vol. ix. p. 375.—The HONEY BUZZARD.**

*Adult*.—General color above and below rich chocolate brown, with indistinct black shaft stripes; the crown and sides of head, as well as the throat, ashy grey; the lower throat blackish; quills and tail brownish ashy, the latter with 3 dark bands, the uppermost hidden by the upper tail coverts, the terminal one tipped with greyish white; crest undeveloped; cere black, greenish towards commissure and nostrils; gape and lower mandible pale blue; feet bees'-wax-yellow; irides yellow.

*Length*.—24 to 25·5 inches; wing 15·5 to 16·5; tail 11·5 to 12·75; tarsus 2·1 to 2·2. The female is larger. The intermediate and young stages of the Honey Buzzard are so very variable, that it is scarcely necessary to describe them. Mr. Sharpe says: "Great variations exist in the tone of the intervening stages, the color varying from tawny to fulvous brown, while the extent of black stripes on the throat is also a very variable character." Again, he adds, under "Obs." that, the young of *P. ptilonorhynchus*, if they happen to be crestless, are undistinguishable in plumage from the immature of *P. apivorus*;

and I have seen young birds from India which I could not separate from European examples. A natural inference is that these may not be *P. ptilonorhynchus* but *P. apivorus*, the young of which may migrate to India in the winter." Mr. A. O. Hume's remarks are also to nearly the same effect.

*Hab.*—The whole of India, except Sind; the Himalayas, Burmah, the Malayan Peninsula, Sumatra and Java, also Nepaul and Ceylon.

Breeds in May and June, on trees, making a moderate-sized nest of sticks and twigs lined with leaves or grass; eggs normally 2 in number, spherical nearly, or a very broad oval, white or buffy with red, reddish brown, or blood red markings and varying in size, from 1·82 to 2·2 in length and from 1·5 to 1·9 in breadth. The food of the Honey Buzzard is young birds, frogs, mice, bees, and reptiles generally. It has a rapid flight, soars very high and gracefully, and glides through the air without apparent effort. It is easily tamed, bears confinement well and does not show the fierceness of other birds of prey. Another species, *Pernis brachypterus*, Blyth, has been mentioned in *Stray Feathers*, Vol. III. p. 36, as having been found in Upper Pegu. The description is certainly very curt, and I have seen birds answering it from the Punjab and the Deccan. The extremely variable character of the plumage of the intermediate and crested stages of the species, leaves room to doubt its validity.

### Sub-family—FALCONINÆ, FALCONS.

Bill short, suddenly curved from the base; upper mandible distinctly toothed; nostrils, either round, oblique, or linear oval; cere short; tarsi, slender, naked; hinder aspect reticulate. Outer toe only connected to mid-toe by interdigital membrane; tibia longer than tarsus.

Gen. **Baza**.—*Hodgs.*

Bill small, much hooked, grooved on its side; upper mandible with two sharp teeth on each side, lower with 3-4; lores covered with feathers; nostrils transverse, narrow; head crested; wings moderate; the 3rd quill longest, the 1st three slightly emarginate towards the tip; tarsi covered with small smooth hexagonal scales; claws small, subequal.



**58. Baza lophotes**, *Tem. Pl. Col.* i. pl. 10; *Gray List, Gen. B.*, p. 4; *Blyth. Cat. B. Mus. Soc. Beng.*, p. 17; *Ferd. B. Ind.*, i. p. 111, No. 58; *Bly. Ibis*, 1863, p. 11; *Wall. Ibis* 1868, p. 19; *Hume, Rough Notes*, p. 337; *Hold., P. Z. S.* 1872, *Sharpe, Cat. Acc. B. M.*, p. 352; *Hume, Str. F.*, vi. p. 24; viii. p. 191.—The BLACK CRESTED KITE.

Above glossy greenish black with a very long occipital crest; thigh coverts under-tail and under-wing coverts also glossy greenish black; quills black, greyish underneath; outer webs of the secondaries deep chestnut at base and towards the tip which is greenish black, rest of the feathers white; scapulars and some of the coverts next them white internally and tipped chestnut, forming a conspicuous interrupted white wing band; tail greenish black above, ashy grey beneath; entire sides of the face and neck as well as the throat black, tinged with brown; foreneck and chest white, forming a very broad band, followed by an indistinct line of blackish feathers, and another broad band of chestnut covering the upper breast; lower breast creamy white and banded with chestnut, narrow on the lower part and flanks; thighs, lower abdomen, under tail-coverts and underwing-coverts greenish black, the lower ones of the latter ashy grey; bill and legs plumbeous; irides dark brown.

*Length*.—13 to 14 inches; wing 9 to 9·85; tail 5· to 5·7; tarsus 1·3 to 1·5.

*Hab.*—Southern India, Ceylon, the Malayan Peninsula, Lower Bengal, Assam, Tipperah and the Tennaserim provinces of British Burma.

Of the nidification of this species nothing is known.



**59. *Baza sumatrensis*, Lafr. Rev. Zool, 1848, p. 216; Gray Gen. B. III. App. p. 2, 1849; Wall Ibis, 1868, p. 18; Sharpe Cat. Acc., p. 357; Stray F. ii. p. 378; iii. p. 313; iv. p. 248; vi. p. 25; viii. p. 444.—THE SUMATRAN CRESTED KITE.**

*Male*.—Hume's specimen from Tennaserim—*Baza incognita*, nobis. Fore-head, and a broad but inconspicuous band from the latter over the eyes to the nape pale whitey brown (not noticeable in Sharpe's figure); the shafts darker brown; crown of the head, occiput, nape and sides of the neck rufescent buff; the feathers broadly centred with dark brown; crest black, narrowly and obsoletely barred the feathers with white tips; lores and an inconspicuous band under the eye and the base of the ear-coverts grey, the feathers darker shafted; rest of ear-coverts and lateral portions of the throat fulvous, the feathers dark shafted; chin and throat pure white, slightly tinged with yellowish, and with a narrow, and conspicuous black central stripe; upper breast mingled white and a pale

brownish rufous; lower breast, sides, flanks, axillaries and abdomen white with broad regular transverse brownish rufous bands; vent and lower tail coverts white or buffy with traces of rufous barring; wing lining yellowish white with rufous bars and mottlings; quills brown on the outer webs, banded obscurely with darker brown, their inner webs with a dark drab brown at the tips and white basally, with several broad, blackish brown transverse bands and tipped white; also the secondaries and some of the median coverts; lower surface of quills French grey at the tips; tail pale drab with a subterminal band, which is black, and 3 others; under surface of tail greyish white, the dark bands showing through on the outer webs.

*Length*.—18.5; wing 13.12; tail 9.62; tarsus 1.6; bill from gape 1.35; legs and feet white tinged with blue. Irides bright yellow; cere and upper mandible blackish; base of lower mandible paler.

The female is very similar to the male except that the head, nape and sides of the neck are more rufescent and have less conspicuous dark brown central stripes, the mantle is a much less dark brown, there is less of the purple gloss and the marginal fringes of the feathers are broader and more rufous; there is no grey about the cheeks, which are pale fulvous fawn; the chin and throat too are fulvous white and the throat stripe is brown, instead of black, as in the male; the coverts are also paler and more rufescent.

*Length*.—22.0 inches; wing 13.75; tail 10.25; tarsus 1.7; bill from gape 1.3.

Mr. Sharpe *Cat. Acc.*, describes a young female from Sumatra, but Messrs. Hume and Gurney, two profound Ornithologists, suggest that it was not correctly sexed, and that the specimen is a young male, and not female. The following is Mr. Sharpe's description.

*Young female*.—Head and hind-neck creamy buff, washed with tawny rufous, the feathers on hinder part of crown dark brown in the centre; occipital crest very long, black, with cream-coloured tip; back brown with fulvous edgings, the scapulars and secondaries further margined with white; quills ashy brown, barred with darker brown, the tail similarly coloured, narrowly tipped with white; the feathers washed externally with rufous near the base; the bars on the tail four in number, one being concealed; the under-surface of both wings and tail paler and more ashy white; entire sides of face, throat and under-parts creamy buff washed with pale tawny rufous; the breast and sides of the body broadly barred with the latter colour; under-wing coverts creamy buff; bill black; pale at base beneath; feet yellowish white; iris yellow.

*Length*.—20.5 inches; culmen 1.4; wing 12.75; tail 9.6; tarsus 1.6.

*Hab.*—Sumatra, Tennaserim, B. Burmah.

**60. *Baza ceylonensis*, Legge, *Birds of Ceylon; Stray F.*, iv. p. 247; viii. p. 444 :—THE CEYLON CRESTED KITE.**

Lores blackish; head brownish tawny; centre of forehead and crown, black, edged with rufous; occipital crest  $1\frac{1}{2}$  inches in length, black, conspicuously tipped with white; the feathers of the hindneck deeply edged with rufous tawny, the centre parts being black; back, scapulars, rump, upper tail coverts primary and lesser wing coverts blackish brown, the latter the deepest and with a cinerous tinge; upper tail coverts paler than the back; median and greater wing coverts pale or fulvous brown; quills black, the outer webs with smoky grey bars, the corresponding band on the inner web being brown; tertials and secondaries tipped with white; tail dark smoky grey, tipped greyish white and with four blackish bars, the terminal one about  $1\frac{1}{2}$  inches in depth; cheeks and ear-coverts slaty grey with dark shafts, the dark feathers of the occiput passing round to meet the latter region; chin and throat buff with a broad mesial black streak; sides and lower part of fore-neck with the upper edge of the pectoral region tawny cinerous, the feathers with brownish shafts; below this, the under-surface, under-tail and under-wing coverts are white, with broad rufescent brown edges; iris yellow, also the tarsi and feet; bill blackish leaden; lower mandible pale at base; cere dusky plumbeous.

*Length*.—To front of cere 16·5; culmen 0·10; total length 17·5; wing 11·7; tail 7·5; tarsus 1·5; bill to gape 1·2.

*Hab*.—Southern India (The Wynaad) and Ceylon (Kandy district). Nothing is known of its habits, &c.

Gen. **Microhierax**.—*Sharpe*.

Bill short; upper mandible with a tooth and a notch on each side; wings short; 2nd and 3rd quills equal; tarsus short, with large transverse scutæ in front.

**61. *Microhierax cærulescens*, Linn. S. N. i. p. 126; Sharpe, *Cat. Acc. B. M.*, p. 366. *Harpagus cærulescens*, Sws. *Classif. B.*, ii. p. 213. *Hierax bengalensis*, Bly. *J. A. S. B.* xi. pt. ii. p. 79. *Hierax Eutolmus*, Gray. *Gen. B.*, i. p. 21; *Ferd. B. Ind.*, i. p. 42, No. 20; *Hume, Rough Notes*, i. p. 3.—THE WHITE-NAPED PIGNY FALCON.**

*Adult*.—Forehead, supercilium continued to down the sides of the neck, and connecting the broad collar on the nape, white; round the eye and a broad streak to the ear coverts black; throat, lower abdomen, under tail coverts, and thighs chestnut; occiput to the white collar black, also the mantle, wings, and tail; quills black, barred with white on their inner web; tail spotted with white on the inner webs; lower throat, breast, and abdomen silky white.

*Length*.—5·5 to 6·5 inches; wing 4 to 4·5; tail 2·1 to 2·5; tarsus 0·75 to 0·85.

*Hab.*—Southern and Upper India, Nepal, and Assam, Sikkim, Arrakan, British Burma, the Tennaserim Provinces, Darjeeling.

Affects open jungle, and are often seen perched on dead trees in parties of 5 or 6. Mr. Davison found that they affected the top of some large tree rising higher than its neighbours, and from this commanding perch they took longer or shorter flights, after insects apparently. Their flight is rapid and as far as my observations go, they feed both on insects and small birds. They are quick and lively in their motions. Of the nidification of this, the red-legged Falconet, nothing is known.

**62. *Microhierax fringillarius***, *Drap. Dict. Class d'Hist. Nat.* vi. p. 412, pl. v. *Hierax cærulescens*, *Vig. Zool. Journ.* i. p. 339; *Bly. J. A. S. B.*, xii. p. 180; *Wall. Ibis.*, 1868 p. 6. *Hierax Malayensis*, *Strickl. Ann. N. H.*, xiii. p. 33.—THE BLACK-LEGGED FALCONET.

*Adult.*—Above deep blue black, quills and tail also black, but barred with white on their inner web; forehead and a stripe from behind the eye down the sides of the neck white, lores, round the eye, ear coverts and hinder part of cheek black; under parts silky white; the throat slightly, the abdomen and under tail coverts more richly washed with ochre; sides of body, flanks, and outer face of thighs glossy black.

*Length.*—5·75 to 6·45 inches; wing 3·62 to 3·82; tail 2 to 2·75; bill from gape 0·45 to 0·55; tarsus 0·65 to 0·75; bill legs, and feet black; irides dark brown; orbital skin plumbeous.

The female is larger.

*Length.*—6·4 to 6·7; wing 3·82 to 4·15; tail 2·25 to 2·62.

In the young bird the bill is yellow; frontal band and streak behind the eye tinged with pale ferruginous; upper tail coverts and tail feathers margined with buff.

*Hab.*—The Malayan Peninsula, Java, Sumatra, Borneo, Tennaserim, Malacca and Singapore.

The black-legged falconet is common in the southern portions of the Province of Tennaserim, as high up as 3,500 feet elevation. It is not known from any other part of British India. It feeds generally on small birds and insects, and its habits are quite those of *M. cærulescens*.

**Gen. *Poliohierax***.—*Kaup*.

Nostrils perpendicular, oval, with no overhanging membrane or central tubercle; bare part of tarsus greater than outer toe and claw.

**63. *Poliohierax insignis***, *Wald. P. Z. S.* 1871, p. 627, *et Ibis*. 1872, pp. 200-471; *Sharpe, Cat. Acc. B. M.* p. 370; *Stray. F.*, vi. p. 2. *Lithofalco fieldeni*, *Hume, J. A. S. B.* 1872, p. 70.—FIELDEN'S FALCONET.

*Adult Male.*—Forehead, lores and feathers round the eye greyish white with dark shafts; rest of the top, back, sides of the head and upper back slaty

blue, each feather with a linear dark shaft stripe; lower back, rump and upper tail coverts white; tail feathers black, tipped with white and with a few white spots, the remains of narrow transverse bars, not very apparent on the central tail feathers; quills blackish brown or black (the later secondaries and tertiaries more or less tinged slaty) with a few small white spots, most conspicuous on the outer webs of all but the first primary and numerous broad white bars on the inner webs; chin, throat, and whole lower surface, including wing lining, white; some of the feathers of the throat with narrow, central brown shaft stripes and those of the sides and upper abdomen with broad grey brown dashes; cere, orbits and feet yellow; bill leaden black, yellow at base.

*Male*.—*Length* 10·5 inches; wing 5·5; tail 5·8; tarsus 1·55; culmen 0·85.

The female is like the male, but distinguished by its bright ferruginous head and markings; forehead, eyebrow, and sides of face ashy white with narrow linear black shaft stripes.

*Length*.—10·7 to 10·9 inches; wing 5·9 to 6; tail 5·8; tarsus 1·5 to 1·6.

*Hab*.—Pegu, Toonghoo, and Tennaserim. Capt. Fielden says it is common about Thayetmyo. Mr. Oates, (*S.F.* iii.), says, from the Irrawady to the summit of the Pegu hills, also Arracan.

According to Capt. Fielden's observations its food consists of insects, with an occasional mouse, snake, or lizard. He adds that "the ordinary note of this bird is like that of the white-eyed buzzard, but of course not so loud. During the pairing season, its call-note is a kind of whistling hoot, which appeared to me to resemble 'tooovey,' the 'too,' very much prolonged. I once saw a pair meet, when they uttered a succession of loud harsh screams which resembled the cries of a flock of red-wattled plovers when disturbed, but before they rise. They pair about the last week in January. I found an unshelled egg in March (on dissection). I think I found an old nest in the fork of a tree as I shot a young bird a short distance off, but I only mention this as a help to others in looking for the nest. It resembled a small hawk eagle's nest both in make and position.

"The habits of these birds are very peculiar, in something resembling those of the magpie. They perch exactly like a falcon; but if they wish to move along a branch, they hop sideways, or if the branch is pretty upright, walk up it foot over foot, if I may use the expression, in the same manner as a Magpie. When at all alarmed they jerk their tail, and when much excited by the approach of any one, lower their heads exactly in the same way as some of the owlets. Altogether, when moving about the branches of a tree, they might at a short distance be mistaken for a magpie, except for the shape of the head. The flight is also peculiar, a few tolerably rapid strokes ending, if I remember rightly, in a slightly upward jerk, then a short sail through the air, and then a few more strokes, and so on.



"I have invariably found them on cleared ground in the middle of jungles, seated on trees, and once on a fallen hut. The exception to this being when I found them at a spot where several jungle roads meet and form an open space, or on low gravelly hills thinly covered with bushes, and an occasional tree. Their most favourite seat seems to be a dead tree, barked by the Burmese, in the middle of one of their half-cleared cotton fields. I once saw a pair on a tree in a dry rice field, but on every other occasion the ground was covered partially with bushes, cotton plants, &c. I have found them from the level of the Irrawady to the highest cultivated patches in the hills about Thayetmyo. I have never seen one in a large open space or in thick jungle."

### Gen. **Faloo**.—Linn.

Nostrils round with a central tubercle. First one or two quills notched internally, second quill longest; tarsus feathered at the knee; toes long, scutellated.

**64. *Falco communis*, Gm., S. N. p. 270; Less. *Traité*, p. 88, pl. 16; Sharpe, *Ann. N. H.* xi. p. 222; *id.* *Cat. Acc. B. M.* p. 376. *Falco peregrinus*, Gmel. *S. N.*, vol. i. p. 272; Jerdon, *Birds of India*, vol. i. p. 21; *Ibis*, 1871; Gray, *Cat. Br. Mus.*, p. 11; Hume, *Rough Notes*, vol. i. p. 49; Sharpe, *Cat. Acc. Br. M.*, p. 376; Murray, *Hdbk., Zool., &c., Sind*, p. 106. *Bhyri* (the female), *Bhyri Bacha* (the male). Hind. *Falco atriceps*, Hume, *Ibis*, 1869, p. 356; *id.* *Rough Notes*, i p. 58; *id.* *Ibis*, 1871, p. 24; *Jerd. Ibis*, 1872, p. 2. *Falco Brookii*, Sharpe, *Ann. N. H.* (4) ii. pp. 20, 222, 1873.—THE PEREGRINE FALCON.**

*Adult Male*.—Above bluish grey, paler on the rump and upper tail coverts, and barred with blackish. Head, neck, upper part of mantle and wing-coverts blackish, with grey barring, more or less indistinct on the latter. Cheeks, ear-coverts, and a short moustachial band blackish. Forehead, sides of neck, chin, throat, under surface of body and breast white, the latter with a tinge of pale fawn, as also the lower abdomen; the chest with a few narrow black shaft-stripes almost disappearing in old individuals; abdomen with some small heart-shaped spots, some similar marks on the under-tail coverts also. Thighs transversely barred with narrow black lines. Quills brownish black, primaries slightly shaded with greyish, the secondaries clearer grey, crossed by dull blackish bars, the smaller median quills tipped white. Tail feathers greyish, broadly barred with black and tipped with white. Bill bluish, black at the tip; cere, legs and feet yellow; claws black; iris hazel-brown.

*Length*.—15 to 16; inches culmen 1·2; wing 12·2 to 12·7; tail 6·5. (*Adult female* similar to the adult male, but larger. *Length*, 17 to 19; inches, culmen 1·35; wing 14·5; tail 7·5; tarsus 2·3.)

The young bird is brown, all the feathers edged with pale buff shading into whitish; under surface of the body whitish, the throat unspotted, all the rest of the feathers dark brown in the centre, lower flanks barred; head more edged with whitish; cheek stripe brown. Wings darker than the back; the inner webs spotted or barred with rufous. Tail feathers brown, broadly tipped with white; the outer web spotted and the inner one barred with pale rufous more or less distinct.

Very widely distributed species. A winter visitant to India—Occurs in Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajpootana, Kutch, Central and South India, Guzerat, Concans and Deccan, also Beloochistan, Persia, and S. Afghanistan. Rare in Pegu and Tennaserim. Has been found in Nepaul, and also in Ceylon.

The peregrine is believed to breed below Ferozepoor along the banks of the Indus, but nothing certain is known. Mr. Hume, in his "Rough Notes" mentions having a nestling shot by a shikaree in the interior of the Himalayas, not far from Kotegarh. In Europe it builds on rocks and cliffs. Eggs 2, 3 or 4, of a light russet red colour marbled over with darker shades, patches, and streaks of the same. Nest composed of sticks, seaweed, hair, and other such materials. The flight of the peregrine is extremely rapid and by repeated beatings of its wings. 150 miles an hour has been calculated as its rate of flight. It is much prized for its value in falconry on account of its courageous spirit and fearlessness. The food of the species consists principally of birds, such as seagulls, partridges, plovers, grouse and ducks; but it also feeds on hares, rats, &c. It has frequently been known to stoop upon and carry off game from before the sportsman.

**65. *Falco peregrinator*, Sundevo. *Phys. Tidskr. Lund*. 1837, p. 177, pl. 4; *Gray, Gen. B.* i. p. 19; *id. Cat. Mam. and B. Nepal* *Hodgs.* p. 44; *Blyth, J. A. S. B.* xix. p. 321; *Ferd. B. Ind.* i. p. 25; *Hume, Rough Notes*, i. p. 557; *Ferd. Ibis*, 1878, p. 237; *Sharpe, Ann. and Mag. Nat. Hist.* xi. p. 223, 1873; *id. Cat. Acc. B. M.* p. 382; *Str. F.* V. 500; *id.* vii. 423. *Falco* Shaheen, *Ferd. Madr. Journ.* x. p. 81; *id. Ill. Ind. Orn.* pls. xii. and xxvii.—THE SHAHEEN FALCON.**

*Adult*.—Head, nape, neck, interscapulary region, cheek stripe and wing coverts deep black, the latter shaded with bluish grey; lower back, rump and upper tail coverts slaty or bright bluish grey, the latter with remains of or without obsolete blackish cross markings. Quills black, externally washed with greyish, the inner web with a few nearly obsolete rufous bars; secondaries tipped with fulvous. Tail bluish grey, the tips tawny, the blackish bars nowhere distinct; chin, throat and upper breast white; rest of under surface rufous, or tawny ferruginous; flanks, thighs and under tail coverts with a few spots or bars. Under wing coverts rufous with black bars. Cere yellow; bill slaty, blue black at tip; feet yellow; iris deep brown.

*Length*.—16 to 16·5 inches; wing 12·25 to 12·77; tail 6·5 to 6·8; tarsus 2·3 to 2·25.

*Hab*.—The whole of India, the Himalayas, Nepal, Ceylon, B. Burmah, Afghanistan, and extending into Western Asia.

The Shaheen Falcon, like the Peregrine, is much prized in falconry. All the peculiarities which are sought for in the Peregrine are also exhibited in this species which is considered a better bird. Its native habits have not been studied much. It however affects both rocky hills and forest land, and destroys much game. It has been found breeding in Central and Southern India during March and April, building on inaccessible cliffs.

**66. *Falco barbarus*, Linn. Syst. Nat. i. p. 125; Salvin, Ibis, 1859; Heugl. Orn. Afrik. i. p. 21; Hume, Str. F., i. p. 19; Saunders, P. Zool. Soc., 1872, p. 356; Sharpe, Cat. Acc. Br. Mus., p. 386; Murray, Zool., &c., Sind, p. 107; id. Vert. Zool. Sind, p. 68. *Falco pelegrinoides*, Tem. pl. col. 479; Gray, Gen. B., i. page. 19.—THE BARBARY FALCON.**

The forehead presents a mixture of rufous and dull white. This part of the head is encircled by a black (or dark slaty) horse-shoe shaped band, of which the lateral branches pass over the eyes, their extreme points joining in front of the eyes, the moustachial stripes, which extend along the sides of the neck. The occiput and nape are covered by a rufous half collar marked with three black spots, of which the centre one forms a band on the nape. The back and wings are a light bluish grey, with large spots and irregular bars of bluish black.

The tail, which is a lighter grey than the back, is barred transversely with black bands, very narrow towards the bases of the feathers, but widening gradually towards their ends, the tips of which are white. The chest is pure isabelline. The flanks, vent and abdomen of the same colour, but the feathers bear very narrow longitudinal striæ and little triangular black spots. The base of the beak is yellow, but the point blue. The cere and feet beautiful yellow, and the orbital skin orange. (*Tem. Ex. S. F.* 1.19.)

*Length*.—Female 15·5 inches; expanse 36·4; wing 11·4; tail 6·4; tarsus 1·8. Male *Length*.—14 inches; wing 10·8; tail 5; tarsus 1·6.

*Hab*.—Sind (winter visitant), Persia, Kutch, and the Central Provinces. Sharpe, (*Cat. Acc.*) gives its range as N. and N.-E. Africa as well as Senegambia on the West Coast, ranging into N.-W. India and the Himalayas.

**67. *Falco babylonicus*, Gurney, Ibis, 1861, p. 218, pl. vii.; Jerd. B. of Ind., vol. i. p. 32; Ibis, 1866, p. 221; Hume, Rough Notes, i. p. 79; Sharpe, Ibis, 1870; Cat. Acc. Br. Mus., p. 388; Str. F., vii. p. 329; Murray, Hdbk., Zool., &c., Sind; id. Vert. Zool. Sind, p. 67.—THE RED-HEADED LANNER.**

*Young Male.*—Dark earthy brown, some of the feathers of the crown obscurely margined, the nape and hind neck mottled, the lower back and rump edged, and the upper tail-coverts barred with rufous. Tail dark brown, spotted on the outer web and banded on the inner one with rufous, the two centre feathers nearly obsolete barred. Quills dark brown, barred with pale buff on the inner web; the secondaries paler brown, edged and spotted on the outer web with rufous. Feathers under the eye and cheek stripe blackish brown. Sides of the face and ear-coverts strongly tinged with rufous; throat whitish; rest of under-surface earthy buff, with central dark brown streaks to the feathers inclining to bars on the vent and under tail coverts. Under wing coverts brown, spotted and barred with clear buff. Cere pale sea-green; bill pale bluish-green, blackish on the culmen and tip; feet bright yellow; iris dark brown.

*Length.*—15·5 to 16 inches; wing 11·87 to 12 tail; 6 to 6·6; tarsus 1·9.

*Adult Male.*—Above bluish grey, the feathers with pale fulvescent margins, and having indistinct bars of darker grey; the lower back, rump and upper tail coverts paler and clearer blue grey, transversely barred with dark grey, the bars somewhat irregular and arrow-shaped on the upper tail coverts. Wing coverts con-colourous with the back, the greater series rather lighter grey. Quills brown, externally shaded with grey; the secondaries margined and broadly tipped with buffy white, and barred across with darker grey, the bars very distinct on the lower surface of the wing and especially numerous on the primaries. Tail grey, tipped with fulvous and crossed with nine or ten bars of darker grey, the light grey interspaces sometimes tinged with rufous, the lower surface of the tail whitish, the bars very distinct. Head and hind neck clear rufous, the crown more or less inclined to greyish black, of which colour many of the feathers are composed, having only a slight margin of rufous. A rufous half collar round the back of the neck, mottled somewhat with slaty. Sides of the face buffy white, tinged with rufous; the ear coverts streaked with brown, collecting on the cheeks and forming a distinct moustache. Throat pure white; chest also white, with a few narrow central streaks of brown; remainder of under surface whitish, slightly tinged with buff and numerous marked with arrow-head spots of brown in the centre of the body, and barred on the sides of the breast, flanks, and under wing coverts with the same colour. The bars on the thighs and under tail coverts narrower than on the greater series of the under wing coverts. Cere, gape, orbits and feet bright yellow; bill bluish, blackish at the tip; iris deep brown.

*Length.*—17·25 inches; wing 13; tail 7·25; tarsus 1·75.

*Hab.*—The Punjab, Beloochistan and Persia, N.-W. Provinces, Nepaul, N.-E. Africa, Mesopotamia, Central Asia. It is said to breed in Cashmère. A winter visitant. Not uncommon from November to February in Sind and Northern India.

**68. *Falco juggur*, J. E. Gray, *Ill. Ind. Orn.* ii. pl. xx.; *id. Cat. Mammals, and Birds Nepaul*; *Hume, Rough Notes*, vol. i. p. 70; *Str. F.* vol. i. p. 152; *Sharpe, Cat. Acc. Br. Mus.*, p. 393; *Murray, Hdbk., Zool., &c., Sind*; *id. Vert. Zool., Sind*, p. 67. *Falco juggur*, *Jerd. Madras Journ.* x. p. 80; *id. Ill. Ind. Orn.* pl. xlv. 1847. *Lugger* (female), *Juggur* (male), Hind.—THE LUGGUR FALCON.**

*Adult Male*.—Above dusky ashy or slate colour; crown of head dull rufous with central ashy black striations. Lores, forehead, chin, throat and eyebrow white; moustachial stripe black; wing coverts con-colourous with the back, the carpal margin white. The breast white, with a few brown spots. Lower abdomen, flanks, and thighs ashy brown. Tail clear ashy grey with pale rufous bars on the inner webs and a white tip.

*Length*.—15·5 to 17 inches; wing 11·8; tail 7; tarsus 1·95; culmen 1. *Female*.—17 to 19 inches; wing 13·6 to 15·5; tail 8 to 8·5; tarsus 1·95 to 2.

*Young*, of a chocolate brown above and below; wing coverts with rufous margins. Head yellowish-fawn or pale rufous. Forehead and eyebrow whitish. Chin and throat white. Under tail coverts dirty white with faint brown markings.

The Luggur Falcon is the most common of the Lanners, and very generally distributed. It has been recorded from the whole of India; also from Beloochistan and Afghanistan. In the more moist climate, and wooded districts of Malabar, it is found, but not in any numbers. Jerdon remarks, that while the Byri prefers the sea-coast and the neighbourhood of lakes, rivers, and wet cultivation, and the Shaheen delights in hilly and wooded regions, the Luggur, on the contrary, frequents open, dry plains and the vicinity of cultivation. It breeds during January, February and March, particularly in Sind, Punjab, and N.-W. Provinces; also in the Deccan; but is partial, for this purpose, to a dry climate. The nest is placed either on a high tree or on a rocky ledge, but in Sind almost always on ledges of high buildings and mosques or church steeples. The normal number of eggs is 4; five have, however, been occasionally found; in colour reddish, brownish, or yellowish brown, thickly spotted and speckled all over with brick red or reddish brown. In size they vary from 1·85 to 2·15 in length and 1·48 to 1·65 in breadth; generally broad ovals, slightly pointed at one end, glossless, of a slightly chalky but compact texture.

The Luggur Falcon preys chiefly on small birds, also field rats, for which it may be often seen hawking over plains infested by them. It is trained by natives to bring down water-birds of kinds, as, the herons generally, also partridges, floriken, quail and snipe, but at this latter it is not dexterous. Jerdon has a footnote stating that it is also used to strike the Houbara, *Otis macqueeni* and hares.

**69. *Falco subbuteo*, Linn. Syst. Nat. i. p. 127; Gould, B. Eur. i. pl. 22; Blyth, Ibis, 1863, p. 9. Hypotriorchis subbuteo, Boie, Isis, 1826, p. 976; Gray, Gen. B. i. p. 20; Jerd. B. Ind. i. p. 33, No. 13; Hume, Rough Notes, i. p. 85; id. Stray F. ix. 282.—The Hobby.**

*Adult Male*.—Top of head, back, scapulars and wing-coverts bluish black, the latter sometimes tinged with rusty; lower back and rump clear slaty grey. Forehead and eyebrow, whitish; nape tinged with rufous, forming two indistinct rufous spots. Lores, cheek stripe, feathers below the eye and ear-coverts black. Throat and sides of the neck, creamy white, tinged with rufous, the breast and abdomen the same, streaked mesially with dark brown, narrow on the centre of the abdomen, and wider on the flanks; vent, under tail coverts and thigh coverts rich ferruginous. Under wing coverts buffy white with some transverse dark bars. Quills blackish, barred internally with rufous. Tail dark slaty or slaty grey, barred on their inner webs with rufous, and tipped with whitish.

*Length*.—11 to 11·5 inches; wing 9·5 to 9·6; tail 5·5; tarsus 1·25. Females are larger. *Length*—13·5; wing 10·6; tail 6·5; tarsus 1·4.

The young bird is dark or grey brown above, the feathers edged with fulvous. Cheek stripe darker. Forehead and superciliary fulvous white; sides of the neck, nape, throat, and under surface creamy buff; lower abdomen and thigh coverts with a rufous tinge, and streaked mesially with brown. These streaks are rather broad and distinct on the breast, and long and narrow on the under tail coverts. Wings and tail as in the adult—black, and banded with rufous.

*Hab*.—The whole of Europe and Northern Asia, extending to India and North China, and migrating in winter to South Africa (*Sharpe*). It has also been found in Nepal and Darjeeling, also in Kumaon, Oudh, Dhurmsala, between Mussoorie and Gangootri, Northern Guzerat, Kutch, and Jerdon killed one at Jaulnah. In Sind it was obtained by Mr. S. Doig at Hyderabad in the month of June.

The Hobby is a winter visitant. Nothing is known of its breeding habits in India. Mr. Hume says, although common enough in some parts of the Himalayas, it is a rare visitant and if it breeds anywhere within our limits, it would probably be in the higher ranges of the hills. From Kumaon, Mr. R. Thompson, writing to Mr. Hume in September, says he saw flocks of the Hobby hunting about for insects which appear to be its food. Snipe, plovers, swallows and sandpipers, it is also very partial to. The nest of the Hobby which is built of sticks and lined with moss or hair is usually placed in the top-most branches of trees in forests. Eggs 2 to 4 in number, short and oval, of a dingy white or bluish white ground colour, much speckled all over with reddish or yellowish brown.

**70. *Falco severus*, Horsf. Tr. Lin. Socy. xiii. p. 135; Blyth, *Ibis*. 1863, p. 8. *Hypotriorchis severus*, Gray, *Gen. B.*, i. p. 20; *Jerd. B. Ind.* i. p. 34; No. 14; *Hume, Rough Notes*, i. p. 87; *Sharpe, Cat. Acc. B. M.* p. 397; *Stray F.* iv. p. 354; and pp. 533-5.—The INDIAN HOBBOY.**

*Adult*.—Dark slaty blue above, black on the cheeks and ears; beneath deep rusty red, unspotted. Cere, orbital skin, and legs reddish yellow; bill plumbeous.

*Length*.—Male, 10·5 inches; wing 9; tail 4·5.

Mr. Sharpe (*Cat. Acc.*) describes an adult female. Above black, with a slight slaty grey shade, more distinct on the lower back, rump and tail, the bars on the latter obsolete; head, cheek and ear coverts black. Under surface of body, bright chestnut; throat and sides of neck creamy white, the latter with a slight wash of chestnut. Under wing coverts bright chestnut, some of the lower ones barred with black. Primaries black with a few rufous bars near the base. Cere, orbits and feet yellow; bill bluish black, yellow at base; iris dark brown.

*Length*.—13·5 inches; wing 8·5 to 8·75; tail 4·5 to 4·62; tarsus 1·15.

*Hab*.—Northern and Southern India; Nilgherries, Travancore Hills, Barrackpore; the lower ranges of Kumaon and Gurhwal and the Himalayas generally. Out of India proper, Mr. Sharpe gives the Indo-Malayan sub-region and Nepal. Supposed to breed in the dense forests of Gurhwal.

**71. *Falco chiquera*, Daud *Traite*, ii. p. 121; Blyth, *Cat. Mus. As. Socy. Beng.* p. 14; *Sharpe, Cat. Acc. Br. Mus.* p. 403. *Hypotriorchis chiquera*, Gray, *Gen. B.* i. p. 20; *Jerdon, B. Ind.* i. p. 36, No. 16; *Murray, Habk. Zool., &c., Sind*, p. 108. *Chiquera typus*, *Bp. Rev. Mag. de Zool.* p. 536, 1854; *Hume, Str. F.*, i. p. 157. *Lithofalco chiquera*, *Hume, Rough Notes*, i. p. 91; *Anderson, P. Z. S.* 1871, p. 681. The *Turramti*, Hind.—The RED-HEADED MERLIN.**

*Adult Male*.—Crown, nape, back, and sides of the neck chestnut; forehead white; sides of the face, chin, throat and neck white, except a faint, short, moustachial stripe. Eyebrow and a narrow streak below the eye, black; back, scapulars, tertiaries, wing and primary coverts and secondaries slaty blue, the feathers with dark shafts and barred with dark brown. Primaries dark or blackish brown, their inner webs barred with white. Under wing coverts white, barred with blackish brown; breast white, some of the feathers with dark shaft-streaks; rest of under surface white, barred transversely with black. Tail like the back, the feathers barred with black, tipped white and with a broad subterminal black band. Cere, orbits and feet yellow. Claws black; bill greenish yellow at base, black at the tip; irides light brown.

*Length*.—11·5 to 12 inches; wing 8·25; tail 4·75 to 6; tarsus 1·5; culmen 0·85.

The adult female is similar to the male, but larger. *Length*.—13 inches; wing 9; tail 6·5; tarsus 1·5 to 1·55.

*Hab.*—Sind, Punjab, N. W. Provinces, Bengal, Nepaul, Kutch, Kattiawar, Jodhpore, N. Guzerat, and throughout the Indian Peninsula; also Beloochistan, Persia and Afghanistan.

Affects open country in the vicinity of cultivation. It is said to be easily reclaimed and flown at partridges and quails, which it pursues very perseveringly. Like the European sparrow-hawk, it is a very courageous bird, and the propensity of attacking larger birds of prey than itself seems to be more developed. Jerdon says it even drives away the *Wokhab* (*Aquila fulvescens*) from the vicinity of its nest or perch. Breeds in February, March, April and May, nearly everywhere on trees; nest fixed in a fork near the top. Eggs 3—4 in number, variable in shape; in color, they are pale yellowish brown, with from, a few reddish brown specks to a nearly uniform dark brownish red obscurely mottled and blotched with a somewhat purer and darker. Size 1·6 to 1·75 in length, and 1·25 to 1·32 in breadth.

**72. *Falco regulus*, Pall Reis. Russ. Reichs II. Anhang, p. 707; Gmel. Syst. Nat. i. p. 285; Sharpe, Cat. Acc. Br. Mus., p. 406. *Falco æsalon*, Gmel. Syst. Nat. i. p. 284; Heugl. Orn. N. O. Africa. Hypotriorchis æsalon, Gray, Gen. B. i. p. 20, *Jerd. B. of Ind.* vol. i. p. 35, No. 15. *Lithofalco æsalon*, Hume, *Rough Notes*, i. p. 89; *Jerd. Ibis*. 1871, p. 242; Murray, *Hdbk., Zool., &c., Sind*, p. 108.—The MERLIN.**

*Adult.*—Above clear slaty blue, paler on the rump and upper tail coverts, the black shafts on all the feathers distinctly indicated. Head dark slaty, with broad shaft-stripes; forehead, lores and sides of the face whitish, the feathers with dark mesial streaks. Eyebrow and nape strongly mixed with rufous. Ear coverts tinged with grey on the hinder part; chin and throat pure white. Sides of the neck and entire under parts white, washed with rufous, the feathers dark shafted; under wing coverts white, spotted and barred with black. Quills black, the inner web barred with greyish white and the outer washed with bluish grey near the base. Inner secondaries concolorous with the back, dark shafted. Tail slaty blue, tipped with white, with a broad sub-terminal black band. Cere yellow; bill bluish horn colour, darker at the tips; feet yellow; iris dark brown.

*Length.*—Male, 10 to 11·25 inches; wings 7·75 to 8; tail 4·5 to 5; tarsus 1·45. Female browner in color, under surface less rufous. *Length.*—12 to 13 inches.

The young bird is like the adult female in colour, but tinged grey, with dark shafts and rufous edges to the feathers; the head rufous, with dark streaks, the tail ashy brown, barred with rufous and with a white tip.

*Hab.*—Sind, Kutch, Punjab, Beloochistan, and Afghanistan. The whole of Europe and Northern Asia, extending into India and China.



The Merlin is a winter visitant and is chiefly found in Sind, Punjab and the N.-W. Provinces, also in Beloochistan and Southern Afghanistan. Outside of these limits, it is recorded from all over Europe, Malta, Egypt, Lower Palestine and according to Swinhoe in Pekin, Amoy and Foochow.

Mr. Hume says it is commonly captured about Umritsur and sold by native huntsmen. It comes down in some numbers into the Peshawar Valley, and is always to be met with early in the year in the salt range. He adds that it is therefore probable that it breeds in Cashmere and the neighbouring regions of the Himalayas, but of this there is nothing known for certain. The nest in England is generally built on the ground, and the eggs are laid in them. On the Continent the Merlin is said to breed on trees. The eggs are 3 or 4, in number; Bewick says sometimes 5 or 6 (?), bluish white blotched at the larger end with reddish brown or greenish brown, and sometimes of a deep dingy red; in shape a broad oval, slightly compressed towards one end about  $1.6 \times 1.25$  inches in breadth.

The Merlin flies low, and does not often mount above its prey, which is generally birds, as partridges, pigeons, plovers, &c. Snipe and Sandpipers are chased to the edge of the water and are seldom missed.

#### Gen. **Hierofalco**.—*Cuv.*

Outer and inner toes, (measured without claws) about equal in length. Distance between tips of primaries and tips of secondaries about equal to or less than half the length of tail; tarsus finely reticulate in front and not twice the length of mid-toe; nostrils round with distinct central tubercle.

**73. Hierofalco saker**, *Briss. Orn.* i. p. 337; *Sharpe, Cat. Acc. B. M.* p. 417. *Falco sacer*, *Gm. Syst. Nat.* i. p. 273; *Bree, B. Eur.* i. p. 31. *Jerd. B. Ind.* i. p. 29, No. 10; *Hume, Str. F.* i. p. 152; *Hume, Rough Notes*, i. p. 62; *Murray, Handbook, Zool. &c., Sind*; *id. Vert. Zool. Sind* p. 66. *Falco lanarius*, *Pall. Zoog. Rosso, As.-i.* p. 330; *Gould, B. Eur.* i. pl. 20. *Falco Hendersoni*, *Hume, Ibis* 1871, p. 407; *id. and Henderson, Lahore to Yarkand*, p. 171.—The CHERRUG FALCON.

**Adult Male**.—Above pale earthy or slaty brown, all the feathers margined with rufous. Head pale rufous, reddish ash or bleached nearly white; the feathers with narrow mesial streaks. Chin, throat, abdomen, and under tail coverts white; cheek stripe indistinct; breast and lower parts white, with oblong slaty spots, more thickly on the breast and flanks; quills brown, deeply indented with white or rufous-white notches or bars, less in number on the secondaries; tail pale brown, barred with whitish on the inner web, and ovally spotted on the outer. Thighs streaked with brown. Under wing coverts and axillaries white, streaked with brown; cere greenish white; orbits and feet yellow.

*Length*.—18 to 18·5 inches ; wing 12·5 to 13·2 ; tail 7·3 to 7·5 ; culmen 1·2 ; tarsus 2. *Female*, 20 to 24 inches ; wing 14 to 15·8 ; culmen 1·3 ; tail 9·8 ; tarsus 2·1.

*Hab.*—The whole continent of India from Cape Comorin to the Himalayas (Bengal, Sind, Punjab, N. W. Provinces and Kutch), affecting open plains. Outside of India it is found in Asia Minor, Egypt, Nepaul and Yarkand.

It is not common in Sind, and occurs during winter only, arriving at the same time as *F. peregrinus*, but of its departure nothing is on record. All specimens obtained in Sind are in the young or immature phase, with the upper parts brown, the head a yellowish white colour, and the body beneath brown. Nothing is known of the breeding of the Cherrug within Indian limits. In "Rough Notes" Mr. Hume says the Ameer of Kabool mentioned that the birds he had, bred in Afghanistan. Eggs are said to be 4 in number, of a slightly elongated oval form, and varying in color and markings from a light red to dirty reddish white with spots and blotches of brighter red. The Cherrug is trained to strike at Cranes, Bustards and other large game.

*Hab.*—The whole of Europe and North Asia ; the Indian Peninsula as a winter visitant ; N. E. and South Africa, Sind, Punjab, N. W. Provinces, Oudh, Bengal, Kutch, Kattiawar, and along the Western Coast ; Central and Southern India to Nepaul ; also Beloochistan, Persia, Afghanistan, and Eastern Turkestan.

A very useful bird to cultivators, preying only, as it does, chiefly on field-mice, which are its favourite diet.

**74. Cerchneis tinnuncula**, *Boie, Isis*, 1828, p. 314 ; *Sharpe, Cat. Acc. B. M.* p. 425. *Tinnunculus alaudarius*, *Gray, Gen. Bird*, i. p. 21 ; *Yerd. B. Ind.* i. p. 38, No. 17 ; *Blyth, Ibis*, 1863 ; *Hume, Rough Notes*, p. 96 ; *Murray, Hdbk., Zool., &c., Sind*, p. 108. (*Narzi*, the female ; *Narzanak*, the male, Hind.)—The KESTREL.

*Adult Male.*—Forehead buffy white ; crown of the head, nape, neck behind and on the sides, blue grey, the feathers with narrow dark shaft-stripes. Eyebrow buffy white ; sides of the face, except a dark moustachial stripe, silvery white ; chin and throat, also the under tail coverts, unspotted buff. Upper back, scapulars, tertiaries and wing coverts, brick-red or vinaceous, the feathers with a subterminal heart-shaped black spot, larger on the tertiaries. Primaries and their coverts, and secondaries dark brown, the primary coverts margined with rufous ; outer secondaries narrowly edged and tipped with fulvous or buffy white, and the primaries barred on their inner webs with white ; the inner primaries with bars of a rufescent hue. Lower back, rump, upper tail coverts and tail blue grey, the tail with a broad subterminal black band and tipped with white ; breast, abdomen and flanks, rufous fawn, the feathers on the breast, and flanks with mesial dark streaks, which take an oval shape lower down. Thigh coverts unspotted rufous fawn. Under wing

coverts white, with a buffy tinge, and spotted black. Bill bluish-horn, black at the tip and yellowish at the base. Cere, orbits and legs yellow. Irides brown.

*Length*.—12·5 to 13 inches; wing 9·5 to 10; tail 6·5 to 6·7; culmen 1·75; tarsus 1·6.

The adult female is less rufous in colour above, and with the subterminal spots wider and forming bands. Head rufous with longitudinal streaks. Tail rufous, banded with dark brown, tipped with white and with a subterminal black band as in the male.

**75. *Cerchneis naumanni*, *Fleisch in Fischer, Jahrg.* 1818 (*teste Naumann*; *Sharpe, Cat. Acc. B. M.* p. 435; *Str. F.* vii. 331; *id.* ix. p. 236, 371. *Falco tinnunculoides*, *Tem. Man. d'Orn.* i. p. 30; *Gould, B. Eur.* i. pl. 27; *Bree, B. Eur.* i. p. 48. *Falco cenchris*, *Cuv. Regn. An.* i. p. 322; *Sharpe and Dresser B. Eur.* pt. 3. (1871). *Tinnunculus cenchris*, *Bp. Cat. Met. Ucc. Eur.* pt. 21; *Tristram, Ibis.* 1865, p. 259.—NAUMANN'S KESTREL.**

*Adult Male*.—Head, hind neck, lower back, rump, upper tail coverts and tail blue grey, the latter tipped with white, and with a black subterminal band; lores and a few streaks on the cheeks whitish. Upper surface of body rich cinnamon rufous, also the lesser and median wing coverts, a few of the outer ones of the latter series washed with blue grey; greater coverts and inner secondaries blue grey washed with rufous externally; primaries dark brown; throat deep fulvous white; breast pale cinnamon or vinous with a few blackish spots, which become larger on the sides of the body; thighs unspotted pale rufous; abdomen and under tail coverts yellowish white; under wing coverts white, with a few tiny oval spots, larger on the axillaries; bill lightish blue, yellow at base and blackish at tip. Cere, orbits and feet beautiful yellow, the claws generally white; iris dark brown.

*Length*.—12·5 inches; culmen 0·75; wing 9·1; tail 6, tarsus 1·2.

The Adult Female is dissimilar to the Male. Tawny rufous above with transverse bars of blackish brown, narrower and more obscure on the lower back, rump, and upper tail coverts, the latter of which are strongly inclined to grey; tail rufous, barred with black, with a broad black subterminal band and tipped with whitish. Head and neck rather pale rufous, the former broadly, and the latter narrowly streaked with blackish shaft stripes; forehead and a distinct eyebrow whitish; cheeks and ear coverts silvery white with narrow black shaft streaks. Primaries dark brown, barred on the inner web with rufous; secondaries like the back, outer ones narrowly margined with white at the tip; throat, vent and under tail coverts unspotted fulvous white; breast inclining to rufous fawn, all the feathers mesially streaked with blackish, broader on the flanks and tiny on the thighs, which are also rufous.

*Length*.—12·5 inches; culmen 0·7; wing 9·3 tail 5·9; tarsus 1·2. (*Sharpe*).

*Hab*.—South and South-Eastern Europe, migrating to S. Africa and India, during winter. Recorded from the Concan, Deccan, South India and Nepal.

**76. *Cerchneis pekinensis*, Swinh. P. Z. S. 1870, pp. 442, 448; Sharpe, Cat. Acc. B. M. p. 437. *Erythropus cenchris*, Jerd B. Ind. i. p. 40, No. 18; Hume, Rough Notes, i. p. 103.—The LESSER KESTREL.**

*Adult Male*.—Similar to *C. Naumanni*, but darker and more vinous red above; below darker colored and unspotted. Wing coverts entirely blue grey, the innermost washed with rufous. (Sharpe).

*Length*.—Male 12 inches; wing 9·6; tail 5·8; tarsus 1·45; bill 0·8. The female is larger and Mr. Hume's measurements of one from Coimbatore, are as follows: Length, 13 inches; wing 9·75; tail 6·75; tarsus 1·81. Bill from gape 0·88. Bill plumbeous, dark at the tips.

*Hab*.—South and South-East Europe; North Africa, Abyssinia, the Himalayas; (Nepaul;) Umballa, and Delhi (Punjab and N.-W. Provinces) Oudh, Bengal, the Concan, Deccan and South India; also N.-E. Cachar.

Nothing is known of the breeding of this species in India, beyond what Dr. Jerdon mentions of his having found it breeding on the cliffs of the Neilgherries in May and June. In the Ibis for 1865, Mr. Tristram gives a full account of its nidification in Palestine. According to him, it breeds in communities, usually in narrow fissures of rocks or crevices of ruins; the Common Kestrel too breeding in the same place. Although closely allied, the eggs of both species are not difficult to discriminate. There is no regular nest and the eggs, 4 in number, are placed in a depression in the bare wall, amongst bits of lime with the hard parts of Coleopterous and other insects, which form the food of this species. The eggs, by Degland's account, quoted by Bree, are very short, smaller than those of the Common Kestrel, of a mingled reddish white color, with a great number of minute spots of a brick red, together and mixed with small brown spots. The figure by Bree measures according to the drawing 1·42 by 1·17 inches.

**77. *Cerchneis amurensis*, Homey, J. F. O. 1868, p. 251; Sharpe, Cat. Acc. B. M. p. 445. *Erythropus amurensis*, Gurney, Ibis. 1868, p. 251. *Erythropus Vespertinus*, Swinh. Ibis. 1861, pp. 253, 327; Jerd. B. Ind. i. p. 40, No. 19; Hume, Rough Notes, i. p. 106; Jerd. Ibis. 1871, p. 243. *Hypotriorchis concolor*, Gurney, Ibis. 1866, p. 127.—The Red LEGGED HOBBY.**

*Adult Male*.—Above leaden black, paler on the lower back and secondaries; greater wing-coverts and primaries washed externally with silvery grey; tail greyish black above, paler below; under surface of body pale grey; lower abdomen, thighs, vent and under tail coverts bright chestnut; under wing coverts and axillaries pure white. Cere, orbits and feet dark orange; claws whitish; bill yellowish horn color, blackish at tip; iris hazel.

*Length*.—9·5 inches; culmen 0·75; wing 9; tail 5·3; tarsus 1·15.

*Adult female*, is dull leaden grey above, darker on the interscapular region, clearer on the scapulars, lower back and rump, all the feathers crossed by

indistinct bars of black; tail bluish grey crossed by a broad subterminal and other narrow bars of black. Quills brownish black, externally washed with grey and barred with white about half way up the inner web; crown of the head, lores, feathers round the eye, and a slight moustachial streak dull blackish; sides of the face, neck and throat unspotted creamy white, also the breast; the latter with mesial streaks of black on each feather; flanks barred; thighs, vent and under tail-coverts pale rufous. Under wing-coverts white with black spots.

*Length*.—10·5 inches; culmen 0·75; wing 9·5, tail 5·3; tarsus 1·1.

*Hab*.—Mr. Sharpe gives, Amoor Land, N. China, Nepaul, E. Coast of Africa and Natal. It migrates during winter to India, and has been found in the Punjab, N.-W. Provinces, Central India, the Concan, Deccan, and also in N.-E. Cachar and British Burmah.

Its habits are quite like those of the Lesser Kestrel, building in communities and hunting in company for grass-hoppers and other insects.

#### SUB-ORDER,—PANDIONES.

Outer toe reversible; toes devoid of feathers; eyes lateral; no facial disk; plumage close and compact. Nostrils not concealed by bristles.

#### Gen. **Pandion**.—*Savigny*.

Bill short rounded above and curved from the cere. Upper mandible with a slight festoon. Nostrils small, obliquely transverse; wing lengthened; second quill longest; distance between tips of primaries and secondaries greater than length of tarsus; legs naked; tarsi with reticulate scales.

**78. *Pandion haliaetus***, *Lin. Syst. Nat.* i. p. 129; *Sharpe, Cat. Acc. B. M.* i. p. 450; *Less. Man. d'Ornithology*, i. p. 86; *Sw. and Rich. Faun. Bor. Am. Birds*, p. 20; *Gould. Birds of Eur.* pl. 12; *Bp. Consp.* i. 16; *Yerd. B. Ind.* i. p. 80, No. 40; *Hume, Rough Notes*, i. p. 234; *id. Stray Feathers*, i. p. 159; *Blanford, Eastn. Persia*, p. 114; *Murray, Hdbk., Zool., &c., Sind*, p. 110; *id. Vert. Zool. Sind*, p. 81; *Shelley, B. Egypt*, p. 203. *Pandion indicus*, *Hodgs. in Gray's Zool. Misc.* p. 81. *Muchee-Mar*, Sind; *Much Murrung*, Hind.—The OSPREY.

Head and nape white, the feathers of the forehead and crown with dark brown stripes; a dark brown streak from the eyes over the ears; upper plumage rich hair brown; quills blackish; tail pale brown with dark bars, whitish on the inner web; beneath pure white with some brown spots on the breast, longitudinal in youth, broader in advancing age, and tending to coalesce in the fully adult; irides bright yellow; legs and feet plumbeous yellow.

*Length*.—Of a female 26 inches; wing 20; tail 9; tarsus 2·4; bill black.

*Hab.*—Sind, Beloochistan, and Persia; also the Punjab, N.-W. Provinces, Bengal, British Burmah, Nepaul, Kutch, Kattiawar, Concan and Deccan, and nearly throughout the Indian Peninsula in suitable localities. Occurs also all over Europe and Africa, N. and S. America, China and Japan. Very widely distributed. Most abundant along the coasts, large rivers and lakes. In Sind it is a winter visitant.

Mr. Sharpe (*Cat. Acc.* p. 450) remarks that "Ospreys seem to get whiter on the head with age; the mottling on the breast is strongly marked in all old birds, and that the tail becomes more uniform brown with age, so that a strongly barred tail is a sure sign of immaturity."

It is believed the Osprey breeds in the Valley of Kumaon, where Mr. Hume saw the nest of one, and Mr. Thompson believes it breeds on the Ganges above Hurdwar. Nothing certain is however known. In the British Isles it is said to make a large nest either on trees, on rocks, or about old ruins near large pieces of water, and to lay 2 or 3 eggs, oval in form, and typically have a white ground, here and there clouded with pale purple and very richly blotched and streaked, most densely towards the large end with deep red, becoming in its intensity almost black.—Size  $2.52 \times 1.89$  to  $1.93$ .

### Gen. *Polioaetus*.—*Kaup*.

Tarsus feathered in front for one-third its length, scutellate in front. Distance between tips of primaries and secondaries less than length of tarsus.

**79. *Polioaetus ichthyaetus*,** *Horsf. Tr. Linn. Socy* xiii. p. 136; *Sharpe, Cat. Acc.*, p. 453; *Kaup. Contr. Orn.* 1850, p. 73; *Ferd. B. Ind.* i. p. 81; *Hume, Rough Notes*, ii. p. 1. *Haliaetus plumbeus*, *Hodgs. J. A. S. B.*, vi. p. 367.—THE EASTERN WHITE-TAILED EAGLE.

*Adult Male*.—Head and neck all round ashy grey; breast a little lighter brown than the back; wings darker; primaries blackish. Under surface of wing leaden brown with a whitish spot at the base of the primaries; tail white with a terminal bar of brown. Abdomen, vent, thighs, lower flanks and under tail coverts white, under wing coverts ashy brown. Cere and bill blackish; feet dirty yellowish white; iris brown.

*Length*.—26 inches; wing 18; tail 10; tarsus  $3.75$  culmen  $2.3$ .

*Adult female*.—Similar, but larger. *Length*.—29 inches, with a wing of  $20.4$ , and tarsus  $3.9$ .

The young bird is lighter brown above. All the feathers edged and tipped with whitish; feathers beneath pale reddish brown, with mesial pale streaks; thighs white, mottled with reddish brown; quills as in the male with a larger white basal patch below; tail fulvous brown, mottled with dark brown, tip uniform dark brown, forming a distinct band.

*Hab.*—Punjab, N.-W. Provinces, Oudh, Bengal, Rajpootana, Central India, the Southern Mahratta country (Dharwar), Central Provinces, Kutch, the Concans and British Burmah, extending to Nepaul and Assam. Breeds in January to as late as April, chiefly in the N.-W. Provinces and Bengal (although it may be found breeding in other parts of India), building a nest of stout sticks on high trees on the bank of some river or in the proximity of some considerable piece of water. The nest is usually lined with some soft material as grass, weeds and green leaves; this latter is generally the uppermost layer on which the eggs are laid. Eggs normally three in number, a broad and perfect oval in shape; texture rough and pitted, and with a slight gloss, and unspotted white.—2·72 to 2·8 inches in length, and from 2·1 to 2·15 in breadth.

**80. *Polioæetus humilis*, Mull and Schleg. Verz. Nat. Gesch. Zool. Aves. p. 47 pl. 6; Kaup. Contr. Orn. 1850, p. 73; Wall. Ibis. 1868, p. 14; Walden. Tr. Z. S. viii. p. 35; Sharpe, Cat. Accr. p. 454. *Ichthyæetus nanus*, Bly. J. A. S. B. xi. p. 202. *Pandion humilis*, Gray, Gen. B. i. p. 17; Blyth, Ibis. 1866, p. 244; Str. F. v. p. 130; id. ix. 244.—The LESSER SEA EAGLE.**

*Adult female.*—Above ashy brown; the back and wings darker and more chocolate brown; the feathers of the crown and hind neck slightly fulvescent towards their tips; lores and an indistinct eyebrow whitish; cheeks, throat, breast and under wing coverts entirely ashy brown; a few whitish streaks on the throat and forepart of cheeks; lower abdomen, thighs, vent, and under tail coverts white; primaries black, whitish at base of inner web; secondaries brown like the back; tail pale brown at base, gradually becoming darker brown towards the tip which is white; bill and cere dusky lead colour; feet pale bluish white; iris light yellow.

*Length.*—23 inches; wing 6·2; tail 8·8; tarsus 2·85; culmen 2·05.

The young is brown with large fulvous tippings to the feathers. *Length.*—18·5.

*Hab.*—From Assam, down the Malayan Peninsula, to Sumatra and Celebes. Found in N.-E. Cachar; also Bengal.

## SUB-ORDER.—STRIGES

OR

### NOCTURNAL BIRDS OF PREY.

Head large, eyes surrounded with a circle of radiating feathers forming a facial disk and directed forwards; ears large. Nostrils generally hidden by stiff bristles; feet generally feathered to the toes; outer toe reversible; tibia more than double the length of tarsus; plumage soft and fluffy.

**Family.**—BUBONIDÆ.

Hinder margin of sternum with two or more distinct fissures or clefts; furcula free, not attached to keel of sternum; inner margin of claw of middle toe not serrated; mid toe longer than the inner one.

**Sub-Fam.**, BUBONINÆ,—EAGLE AND SCOPS OWLS.

Ear conch not larger than the eye, and without an operculum.

**Gen. Ketupa.**—Lesson.

Bill long, strong, straight at base, moderately compressed and hooked. Wings do not reach the end of the tail; tarsi naked, reticulate; soles of feet with tiny prickles; ear-tufts large.

**81. Ketupa ceylonensis**, *Gmel. Sys. Nat.* i. p. 287; *Gray, Gen. Birds*, i. p. 38; *Ferd. Birds of Ind.* i. p. 133, No. 72; *Hume, Rough Notes*, ii. p. 379; *Str. F.* i. p. 341, ii. p. 469; *Sharpe, Cat. Striges*, p. 4; *Murray Hdbk., Zool., &c., Sind*, p. 119; *id. Vert. Zool. Sind*, p. 92.—The BROWN FISH-OWL.

**Adult.**—Above fawn-brown, the feathers broadly centred black and mottled brown and fulvous on both webs. Feathers of the hind neck thinly barred with brown; the ear tufts with dark central longitudinal streaks. Quills dark brown, the primaries tipped and spotted on the outer web with creamy buff, the same spots on the inner webs, being dull fawn-brown; secondaries dark brown, with less distinct spots and bars, and more mottled with brown. Tail brown with a fulvous tip, and 3 or 4 pale fulvous bands. Chin and throat white streaked with dark brown. Loreal plumes whitish; under surface of body fulvous-fawn or vinaceous-rusty, all the feathers mesially streaked with broad black centres and with wavy bars. Disk rusty with dark brown stripes; cere greenish grey. Bill pale horny yellow. Legs and feet dusky yellow. Irides bright yellow.

**Length.**—21 to 24 inches; wing 16·25; tail 8; tarsus 2·65.

**Hab.**—India, Ceylon, Assam and Tenasserim. I have had it at Khandalla and Poona in the Deccan. At Madras it is not uncommon, as also in Nepaul and Behar, Sind, Beloochistan, Afghanistan, N.-W. Provinces, Oudh, Bengal, Punjab; also Rajpootana (scarce) Central India, the Central Provinces, Concan, Deccan, South India, British Burmah and Nepaul. There is no record of its occurrence in Kutch and Guzerat.

Breeds throughout India from December to March or April, making its nest on a shelf of rock, clay cliffs, or high banks near water. Normally this species lays two eggs, very perfect broad ovals, white, with in most specimens the faintest possible creamy tinge. The shell is close-grained, and compact, freely pitted over its surface, but more or less glossy. In size they vary from 2·29 to 2·44 in length, and from 1·84 to 1·94 in breadth. In Sind it



affects the forests and breeds in holes of decayed trees. Of its food it is not particular. Fish, young birds, quails and partridges, it is quite partial

**82. *Ketupa Javanensis*.** *Less. Traite*, p. 114; *Gray, Gen. B.* i. p. 38; *Blyth, Cat. B. Mus. A. S. B.* p. 37; *Wall. Ibis*, 1868, p. 65. *Hume, Rough Notes*, ii. p. 384; *Sharpe, Striges*, p. 8. *Bubo Ketupa*, *Kaup. Tr. Z. S.* iv. p. 242.—THE MALAYAN FISH OWL.

General colour a somewhat orange, light rufous, or bright rufous buff, the lower parts with long blackish brown central stripes; throat pure white; the head, aigrets and back of neck similarly marked to the breast, but the stripes broader and closer set; the back, scapulars and wing coverts with broad very closely set, imperfect transverse black or blackish brown bars. The quills and tail feathers blackish brown, intersected at wide intervals by somewhat narrow rufous yellow bars, and all tipped whitish. Face reddish buff, the feathers dark shafted, and at the sides of the disk tipped with blackish brown.

*Length*.—16 to 20 inches; wing 13 to 13·2; tail 6·5; tarsus 2·45; culmen 2·1. Auricular tufts 2·0, auriculars pale tawny, streaked with black.

*Hab.*—Burmah, Siam, and the Malay Peninsula to Sumatra, Java, and Borneo. Common in the Irrawady Delta; also in Tennaserim, Maléoon and the Thoungyeen Valley.

In all its habits like *K. Ceylonensis*. Nothing is known of its nidification. This species issues from its roost just after sunset with a powerful and heavy flight generally over the course of creeks, hunting for its prey. Feeds chiefly on insects and probably fish and crabs.

#### Gen. *Bubo*.—*Auct.*

Nostrils oval, situated in the anterior margin of the cere; cere not inflated. Ear tufts distinct, tarsi never naked.

**83. *Bubo bengalensis*,** *Frankl, P. Z. S.* 1831, p. 115; *Gray, Gen. Birds*, i. p. 37; *Hume, Str. F.* i. p. 163; *Sharpe, Cat. Striges*, p. 25. *Urrua bengalensis*, *Ferd. B. of Ind.* i. p. 128, No. 69; *Murray, Hdbk., Zool., &c., Sind*, p. 118. *Ascalaphia bengalensis*, *Blyth, Ibis*, 1866, p. 252; *Hume, Rough Notes*, ii. p. 366.—THE ROCK-HORNED OWL.

*Adult*.—Forehead and crown dark brown, nearly black, the feathers narrowly margined with light fulvous; back of neck, light yellowish buff, the feathers mesially streaked with dark brown. Ear tufts black, narrowly edged with fulvous; back and scapulars deep brown, mottled and barred with light yellowish buff; the outer scapulars whitish on their external web, forming a conspicuous shoulder-patch. Primaries rich tawny buff, barred across and tipped with brown; their coverts dark brown at tip, and with slightly vermiculated fulvous bars; secondaries dull tawny buff, also barred across and tipped with dark brown, the tawny interspaces on the external web vermiculated with brown, the internal ones clear rufous and margined with white; tertiaries mottled with fulvous and brown. Lower back, rump and upper

tail coverts clear fulvous or tawny buff, vermiculated at the tips, and with irregular narrow bars of brown. Tail tawny with seven brown bars, the central feathers brown with much mottled fulvous bars. Loreal plumes white, with black shafts at the tip. A small black patch above the eye. Cheeks whitish; ear coverts dirty fulvous, the feathers tipped black and with dark shafts. Ruff blackish, the feathers edged with fulvous. Chin white. Throat with a band of stiff fulvous feathers, mesially streaked with brown; below this a patch of white, some of the feathers of which with mesial brown streaks. Breast and sides of the neck light yellowish buff, the feathers mesially streaked and finely spotted with dark brown; abdomen, flanks and thigh coverts buffy white, with narrow transverse wavy bars of brown, the feathers of the lower breast with distinct mesial streaks; under tail coverts fulvous, with narrow wavy brown bars. Tarsal plume buffy white, fulvous on the sides and behind, and with a few indistinct brown markings. Under wing coverts tawny buff, with narrow brown markings. Bill horny black; irides yellow.

*Length*.—20 to 22 inches; wing 16; tail 8.8 to 9; tarsus 2.95 to 3.

*Hab*.—The Peninsula of India and Ceylon; also Beloochistan, Afghanistan, and Nepaul. In India it has been recorded from Behar, Kutch, Kattiawar, Jodhpore, North Guzerat, the Neilgherries, Mhow, Malabar Coast, the Concan and Deccan, Punjab, N.-W. P., Oudh, Bengal; also British Burmah. It is a permanent resident in India, breeding in March and April, laying from 2 to 4 eggs of a creamy white colour.

The precipitous banks of canals and rivers are the breeding places of this species.

**84. *Bubo coromandus*, Lath. Ind. Orn. i. p. 53; Sharpe, Cat. Striges. B. M. p. 35. *Bubo coromanda*, Gray, Gen. B. i. p. 37; Hume, Str. F. p. 164. *Urrua coromanda*, Hodgs. J. A. S. B. vi. p. 373; Jerd. B. of Ind. i. p. 130, No 70; Hume, Nest and Eggs, Ind. B. p. 63; Murray, Hdbk., Zool., &c., Sind., p. 118. *Ascalaphia coromanda*, Blyth, Ibis. 1866, p. 253; Hume, Rough Notes, ii. p. 371. —The DUSKY-HORNED OWL.**

*Adult*.—Head, neck, ear-tufts, back, rump, scapulars and upper tail coverts greyish brown, the feathers thickly vermiculated and crossed with numerous narrow fulvous bars, and with dark mesial streaks. Loreal plumes greyish white, with dark shafts to the tips. Ear coverts dark grey with black shafts, a black patch on the hinder edge of the ear coverts. Chin whitish, quills ashy brown, the primaries tinged with fulvous and crossed with broad bands of dark brown. Outer scapulars with yellowish white spots forming a shoulder patch. Tail dark brown, with 4 broad fulvous bands and a buffy white tip. Entire under surface pale earthy brown with a fulvous tinge, the feathers mesially streaked with dark brown and faintly barred with zigzag lines. Thigh coverts and tarsal plumes fulvous, with narrow bars of zigzag lines. Feet sparsely feathered. Claws horny brown. Bill greyish at the base, horny yellow at tip.

*Length*.—21 to 23 inches; wing 16; tail 9; tarsus 2 to 2.65.

*Hab*.—Sind, N.-W. Provinces (Futtehgur, Delhi), Oudh, Nepaul, Lower Bengal, Arrakan, Lower Himalayas, the Carnatic, Malabar Coast, Rajputana and North Guzerat. Like the last it is a resident in India. Breeds in December, constructing nests of sticks in the fork of trees, lined with some soft material as grass or green leaves. Eggs, 2, 3, varying in size and shape. Typically they are broad ovals. In colour slightly glossed creamy white and varying in size from 2.2 to 2.55 in length, and from 1.75 to 2.0 in breadth.

**85. *Bubo nipalensis***, *Hodgs. As. Res.* xix. p. 172; *Sharpe, Cat. Striges*, p. 37. *Huhua nipalensis*, *Hodgs. J. A. S. B.* vi. p. 362; *Ferd. B. Ind.* i. p. 131. No. 71; *Blyth, Ibis*, 1866, p. 254; *Hume, Rough Notes*, p. 378; *id. Str. F.* i. p. 431. *Bubo orientalis*, *Blyth, Cat. B. Mus. As. S. B.* p. 34. *Huhua pectoralis*, *Hodgs. P. Z. S.* 1872, p. 416.—THE FOREST EAGLE OWL.

*Adult*.—Above brown narrowly tipped and banded across with tawny buff over the whole of the upper surface, these bars less distinct on the crown, but broader and deeper colored on the hind neck. Outermost scapulars tipped and spotted with yellowish buff on the outer web, forming a distinct shoulder patch. Primary coverts nearly uniform dark brown, with faint indications of lighter brown bars. Quills dark brown, barred darker; tail dark brown, broadly tipped with whitish and crossed with six other bands of fulvous; face dusky brown with whitish shaft streaks; feathers above the eye blackish. Ear tufts 3.1 inches long, dark brown, notched and barred with fulvous or white on the inner web. Cheeks with white stiff feathers mesially streaked with brown; chin whitish—rest of under surface of body white, washed here and there with fulvous and barred across with dark brown; under tail coverts the same, also the under wing coverts.

*Length*.—23 to 25 inches; wing 16.5 to 18.1; tail 11; tarsus 3.2; bill at gape 2.5, bill horny yellow; irides brown.

*Hab*.—Southern India and the Himalayas, ranging Eastward into Tennaserim; also Ceylon and Malabar.

I have nothing to record in regard to its nidification. It preys on rats, snakes, hares and pheasants. Mr. Gurney in *P. Z. S.* 1884, p. 558, plate 52, gives an excellent figure of this large owl, from a living specimen in the Zoological Society's Garden, captured as a nestling on a precipitous ledge of a lofty mountain in the Karenne Country to the N. E. of Pegu. It has lived in the Gardens since 1878, at which time a note was made of the circumstances of its capture. (*P. Z. S.* 1878, p. 790), under the name of *Bubo (Huhua) Orientalis*. Mr. Gurney, now has no doubt that it is really an example (now fully adult) of *H. Nipalensis*. Mr. Gurney says "the present is probably the most eastern example of *Huhua Nipalensis*, of which the locality has as yet been ascertained, as there appears to be considerable doubt whether a young owl obtained by Col. Tickell on the Mooleyit Mountain in Tennaserim, belonged to this species

or to its congener, *H. Orientalis*. Mr. Blyth held the former opinion (*Ibis*. 1872, p. 89,) and Mr. Hume advocated the latter in *Stray F.* vol. vi. p. 31. Capt. R. G. Wardlaw Ramsay possesses a specimen of *H. Nipalensis* in immature dress, which was shot at Tonghoo, a locality nearly as far eastward as that from which the bird now in Regent's Park was obtained. Col. Godwin-Austen has recorded a much more northern specimen of this species obtained in the Darrang Dist. of Assam, *J. A. S. B.*, vol. xiv., pt. 2, p. 68; while Mr. W. T. Blanford records its occurrence (*J. A. S. B.* vol. xli., pt. 2, p. 154) in the Tista Valley in Sikkim, and Hodgson in *Asiatic Researches*, vol. xix., p. 173, says it is found in all parts of the kingdom of Nepaul. Major Fitzgerald obtained the young of this species in the Darjeeling District, and says (*Ibis*. 1878, p. 19), that though not a common bird, it is met with in most parts of the Himalayas in the more temperate valleys. The presumption in favour of the Malabar bird being identical with *H. Nipalensis* is strengthened by the fact of this species being an inhabitant of Ceylon."

**86. *Bubo orientalis*, Horsf, Tr. Lin. Soc. xiii. p. 140; Sharpe, Cat. Striges, B. M. vol. v. p. 39; Hume and Davison, B. G. Tennaserim, Str. F. vol. vi. p. 31. *Bubo strepitans*, Less. Traite, p. 114. *Strix Sumatrana*, Raffl., Tr. Lin Soc. xiii. p. 279.—HORSFIELD'S HORNED OWL.**

*Male*.—Upper set of loreal bristles, feathers immediately over and round the upper portion of the eye black, the bristles white at base and the terminal halves of the longer ones blackish brown; point of forehead and an obscure band on each side of the anterior half of the crown greyish white; middle of forehead barred greyish white and brown; crown, occiput, nape, upper portion of sides of the neck and entire mantle deep brown, with narrow, wavy pale rufescent transverse bars, narrowest on the crown; aigrettes of numerous feathers from 2.0 to 2.5 inches long; upper feathers barred like the forehead, the lower ones blackish brown, unbarred or only slightly barred towards their margins or tips. Some of the under scapulars white with black bars; coverts about the shoulder of the wing, winglet and primary greater coverts plain, very dark brown; rest of the coverts and scapulars much like the upper back, but the rufescent bars wider and with mottled brown centres and a few of the coverts white-tipped; upper tail coverts hair brown, with narrow transverse rufescent bars like the upper back; tail deep brown conspicuously white-tipped, and with fine rather narrow transverse rufescent white bars mottled and spotted with brown. Primaries beyond their emarginations dark brown with traces of paler bars; inner webs of quills broadly banded with paler; cheeks and ear coverts mottled grey brown and dingy white; chin, bristles of the gape and base of lower mandible white; entire throat and breast white, the tips banded with close bars of blackish brown. Abdomen, sides, flanks, vent, and lower tail coverts white, with broad, widely separated blackish brown bands; tibial and tarsal plumes, similar, but more narrowly banded; lower portion of feet and inner portion of tarsi unbarred; axillaries barred; wing lining irregularly barred or

spotted with blackish brown; feet clear or chrome yellow; claws black; bill, cere and eyelids, yellow; irides dark brown.

*Length*.—18 to 18.25 inches; tail 6.75; wing 13.75; tarsus 2; bill from nostril to point 0.96; from gape 1.7 to 1.9 (Hume and Davison). The adult female is described in the *B. M. vol. of Striges*, by Mr. Sharpe on p. 40. It is not unlike the male, except that the wavy cross bands are a tawny rufous; and altogether much lighter in the general tone of colour throughout; some of the scapulars have the outer webs white forming a shoulder stripe. *Tail crossed with six dull tawny bands*, instead of five, and tipped as in the male with white.

*Length*.—20.5 inches; culmen 2.3; wing 13.5; tail 7.2; tarsus 2.3; ear-tufts 2.6.

*Hab*.—Malacca, Java, Sumatra, Borneo, Bangka and the Tennaserim Province of British Burmah; according to Mr. Hume rare in the latter. Mr. Davison notes that he met with it in dense forest on the road between Malewoon and Mergui. It was a pouring wet day and the bird being quite drenched, he had no difficulty in *catching* it alive after a short chase.

#### Gen. *Scops*.—*Sav*.

Ear tufts large, Ear orifice moderate. Lateral margin of bill somewhat curved. Cere not inflated; nostrils oval, situated in the anterior margin of the cere. Wings long, reaching nearly or quite to the tip of the tail; 3rd and 4th quills longest; tail short; toes generally feathered; tarsi never naked.

I quite agree with Messrs. Sharpe and Hume, that it is most difficult to understand the owls, especially the species of the *Genus Scops* which are in every way the most difficult to identify.

Mr. Sharpe has, however, done something towards characterizing the various species and had necessarily from want of a large series of skins to make "races" or "subspecies." He says, "these races *do* exist in nature, and they may be called by whatever name Naturalists please. "Varieties" "races" "subspecies" "climatic forms" &c., but it has seemed to me better to keep these forms distinct from one another, than to merge them all in one species and thus to obliterate all records of natural facts which are plain enough to the practised eye of the Ornithologist though difficult to describe in words."

**87. *Scops pennatus***, *Hodgs. J. A. S. B.* vi. p. 369; (pt.); *Blyth, J. A. S. B.* xiv. p. 183; *Str. Feathers*, iii. 38; vi. 34; vii. 180; *Murray, Vert. Zool. Sind*, p. 95. *Ephialtes pennatus*, *Jerd. B. Ind.* i. p. 136, No. 74; *Murray, Hdbk., Zool., &c., Sind*, p. 119; *Sharpe, Cat. Striges*, p. 53 (Sub-Sp. B.)—The INDIAN SCOPS OWL.

This little owl is very similar to *S. giu*, but of a greyer colour ordinarily. Specimens from Sind are usually of the rufous phase. Jerdon describes both phases, which I extract.

*Adult*.—Above ashy grey, more or less tinged with rufous or rufous-grey, the feathers dark-shafted, finely mottled with brown and with a white subterminal spot; wings more rufescent and without the white spots, except on the outer scapulars as usual, and some of the greater coverts; quills rufescent, with darkish double bars, the interval between the bars dusky or mottled, and the light spaces or ground colour, on some of the outer primaries, rusty white in some specimens, or it may be said that the quills are dusky rufescent, mottled with pale bands; the tail rufescent with double bars, in some mottled almost throughout; beneath, the feathers are streaked dark brown, banded with white, and mottled rufous-grey and brown, mostly grey on the upper part and white on the lower part of the abdomen; tarsal feathers barred and mottled; disk ashy white, with a few darker specks, and the shafts of the frontal bristles white; ruff marked with dark brown and rufous.

In the rufous phase, the upper parts are uniform bright golden chestnut red, with black shafts, inconspicuous on the back, more distinct on the forehead, ear plumes and shoulders of the wings; outer edge of scapulars whitish; disk rufous with some of the feathers white-shafted; ruff deep brown with the outer feathers black tipped or black; beneath deeply tinged with the hue of the back, but with more or less white on the belly and under tail coverts; the breast and sides of the belly with brownish central black streaks, the latter with transverse pencillings; four faint bars on the inner webs of the tail feathers, and the primaries also distinctly barred with dusky or mottled. The young bird has all the feathers duller red, more black-shafted, and there is much white on the lower surface; the disk too has a good deal of white, scapulars white externally, with black tips, and the bars on the quills and tail feathers are more distinct, brown and mottled. Bill dusky greenish; iris pale golden yellow; feet fleshy grey.

*Length*.— $7\frac{1}{2}$  to 8 inches; wing 5 to 6; tail  $2\frac{1}{2}$  to 3.

*Hab*.—Sind, Kutch, Rajputana, Concan, Deccan, South and Central India, Bengal, Punjab, N.-W Provinces and Oudh; Central Provinces, Guzerat, Nepaul, Beloochistan and Afghanistan. Recorded also from Upper Pegu, Malacca and Tennaserim.

In Sind it appears to be a winter visitant.

Except Mr. Thompson's note that this species breeds from March till August in holes of trees, at no height from the ground, nothing is known of its nidification or eggs. It is a common bird in the Gurhwal forests. Mr. Hume says, in Lower Bengal he has occasionally obtained specimens by capturing them in the "Jalmil" or Jalousie of his house where they resort to by day.

**88. *Scops rufipennis*, Sharpe, Sub. Sp. f. of the *giu* group, *Cat. Striges*, B. M. p. 60. *Scops pennatus*, *Ferd. Madr. Journ.*, xiii. pl. 2. p. 119.**—THE RUFOUS-WINGED SCOPS OWL.

There is a single specimen only of this species in the British Museum from the Eastern Ghauts, collected by the late Dr. Jerdon and named by him *Scops pennatus*; but Mr. Sharpe has separated it from among his large series of *Scops*. He says, it is of the *Scops giu* group and closely allied to *S. Malayanus* resembling it in the dusky grey ear coverts, but distinguished by the absence of the white ocellations on the hind neck and of the bars on the centre tail feathers, and more especially by its rufous quills. The following is his description of the *type* in the British Museum.

*Adult*.—General aspect of upper surface more uniform than is usual in species of this genus, being of a dusky greyish brown, the feathers being blackish in the centre, but scarcely to be called streaked, excepting on the fore part of the crown, where the black shafts are very broad and distinct, all the feathers of the upper surface so finely pencilled with dark brown as to appear almost uniform, with here and there a few sandy-coloured mottlings, more distinct on the head, to which they impart a slightly spotted appearance; the collar on the hind neck very distinct, some of the feathers being barred with fulvous and crossed with narrow bars of blackish; on the scapulars the blackish cross lines are a little more coarsely defined than on the back, washed with orange buff, and having the outer web pure white, tipped with black, forming a conspicuous shoulder patch; wing coverts greyish like the back, the vermiculations very faint and often obsolete on the greater series, which have rather large white spots on the outer web; the median coverts coarsely vermiculated with sandy buff; the feathers with blackish shaftstreaks; the least series rufous with obscure blackish cross vermiculations; the outermost of the greater series, and the primary coverts strongly rufescent, almost chestnut in tone, the latter finely vermiculated with blackish; innermost secondary quills colored like the back, and finely vermiculated in the same manner, their centres streaked with dusky blackish along the shaft; the rest of the quills rufous, barred with dusky brown; these bars are more or less vermiculated; the inner webs almost entirely dusky brown barred with pale rufous inclining to yellowish on the inner web; the rufous bars on the outer web of the primaries inclining to white, and producing somewhat a chequered appearance; upper tail coverts exactly like the back; the centre tail feathers likewise strongly resembling the upper surface inasmuch as they are without any distinct trace of cross bars; the outer feathers dark brown, vermiculated with sandy rufous, and crossed with seven bars of rufous; the subterminal one very indistinct and lost in the vermiculations at the tips, the light bars inclining to white on the outer edge of the external web; loral plumes whitish; the shafts black, and produced into long hair-like bristles; feathers over the eye buffy white, tipped with blackish; sides of face dusky grey, indistinctly varied with fine cross lines of dull brown; behind the ear coverts a tolerably distinct ruff of orange-buff, and the feathers broadly tipped with black, this ruff extending across the throat, but the feathers here finely barred with blackish; chin feathers dull white; chest dull orange buff; the feathers

broadly centred with black and crossed with a few narrow zigzag lines of brown and vermiculated with the same at the tips, many of the feathers inclining to white; on the breast and the rest of the lower parts the white predominates, many of the feathers only having a few zigzag markings of brown, on many of them a strong tinge of rufous with broad black central streaks; some of the flank feathers slightly washed with grey; under tail coverts almost entirely white, except an arrow-shaped mark of rufous or brown near the tip; leg feathers buffy white, the tarsus slightly streaked with brown; under wing coverts fulvous, those near the edge of the wing mottled with brown; the lower series ashy brown with yellowish white base, the quills being also ashy brown below, but inclining to rufous near the tips, the bands being entirely of this colour, and fulvous only near the base of the inner webs.

*Length*,—8 inches; wing 5·1; tail 2·7; tarsus 0·85. (Sharpe).

Unique. A single specimen from the Eastern Ghauts, Madras. Nothing is known of its habits or nidification. I am, however, strongly inclined to group this as a variety of *S. spiocephalus*.

**89. Scops brucii**, *Hume, Stray Feathers*, vol. i. p. 8; *Murray, Handbook, Zool. &c., Sind*, p. 119; *Sharpe, Cat. Striges*, vol. ii. p. 63; *Murray, Vert. Zool. Sind*, p. 495; *Str. F.* vol. ii. p. 491; iv. 254; vii. 352; *Descr.* ix. 36, 312 376-452.—The STRIATED SCOPS OWL.

Cheeks and feathers under the eye greyish white, excessively fine and indistinctly barred with brown; the lores and stripe running up from them to the top of the eye creamy white. The longer feathers that meet over the base of the upper mandible tinged brownish, a few tiny dark brown feathers on the eyelids. Chin and throat creamy white, with very narrow central shaft-stripes towards the tips and excessively finely vermiculated with brown. Feathers of the ruff, which is inconspicuous, very pale buff, narrowly edged with dark brown. The whole of the forehead, crown, back of head, back and sides of neck, back, scapulars, wing coverts, rump, and upper tail coverts, very pale buff or creamy white, so minutely and closely powdered with pale brown, that looked at from a little distance, the feathers appear to be a uniform pale earthy brown. Every feather has a narrow central dark-brown stripe, some of the outer scapulars have inconspicuous patches of buff on their outer webs, and the ground colour of the feathers on each side of the crown immediately above the eye is slightly paler; but beyond this the whole of the upper plumage above described is singularly uniform in tint and appearance, and is absolutely devoid of those white spots and blackish brown or buff dashes and streaks so characteristic of the other Indian species. The primaries are pale dingy buff, with broad transverse brown bars, which towards the tips are with the ground colour mottled and freckled over, the ground colour with brown, and the bars with dingy fulvous. Nearer the base of the feathers, the light bars are on the exterior webs pure pale buff, while the dark bars continue



freckled as already described. On the inner webs, the dark bars are nearly uniform and unmottled, while the light bars are pure and unmottled towards the edge of the webs, and suffused with brown towards the shafts. The tertiaries and the tips of the secondaries approximate closely to the plumage of the back and coverts. Of the breast and abdomen, the ground colour is similar to that of the upper parts, but the brown powdering is coarser, so that more of the ground colour is seen, and the dark brown central shaft stripes are somewhat broader; towards the vent, on the flanks and lower tail coverts, the ground colour becomes almost pure white, and the brown powdering very sparse, while the shaft stripes are reduced as on the back and wing coverts to well-marked dark lines. The short dense tibial and tarsal plumes are brownish white, each little feather with its dark central shaft stripe. The axillaries and wing lining are cream-coloured or yellowish white, entirely unstreaked and unmottled.

The legs and feet, including the base of the toes, densely feathered; terminal portions of toes with small transverse scutæ, slate-coloured; claws black, well curved, slender, and very sharp; toes very slender, but pads largely developed, so as to make a broad sole; exterior toe more or less versatile; irides bright yellow; bill dusky.

*Male, Length*.—9 inches; expanse 22 inches; wing 6·4 inches; tail 3·25 inches; tarsus 1·45 inches; foot greatest length 1·87 inches; greatest width 1·75 inches; mid-toe to root of claw 0·8 inch; its claw straight, 0·39 inch; hind toe 0·35 inch; its claw straight, 0·28 inch; inner toe 0·67 inch; its claw straight, 0·4 inch. Bill straight from forehead to point including cere, which is ill-defined, 0·7 inch, from gape 0·73 inch; height at front at margin of cere 0·29 inch, wings when closed are even with the end of tail. Lower tail coverts reach to within 0·9 inch of end of tail. The third and fourth primaries are the longest; the first is 0·75 inch, and the second is 0·08 shorter. The exterior tail feathers are 0·3 inch shorter than the central ones. Weight 4 oz. (*Hume, Stray Feathers*, vol. i., p. 8.)

Mr. Vidal obtained this species at Khed in the Southern Concan, and the Rev. Mr. Fairbank near Nuggur. Major Biddulph records it from Gilgit, and I have myself taken specimens in Southern Afghanistan, where it is not uncommon and breeds in April; eggs 3 in number, pure white, round, 1·77 × 1·0 inches. It nests in holes of old *Pistacia Kinjuck* trees, on the Khojak, and below. Every orchard after dusk is alive with them, and they make night hideous with their melancholy cry.

**90. *Scops spilocephalus***, *Blyth, J. A. S. B.* xv., p. 8; *Hume, Nest and Eggs, Ind. B. i.* p. 66; *Sharpe, Cat. Acc. Br. Mus.* p. 63. *Scops pennata*, *Hodgs. J. A. S. B.* vi. p. 369, *partim*. *Phodilus nipalensis*, *Gray, Handl. B. i.* p. 53. *Ephialtes gymnopus*, *Hume, Rough Notes*, ii. p. 390; *Ferd. Ibis*. 1871, p. 347.—THE BARE-FOOT SCOPS OWL.

Forehead and a broad stripe over the eye pale rufous white or fawn colour. Some of the feathers with a few minute brown spots towards the tip; loreal bristles pale fawn color, more rufous towards the tips, which are black. Feathers under the eye and ear coverts pale fawn color, more or less tinged rufous, and freckled, mottled or imperfectly barred with brown. Top of head, back of neck, back, scapulars, rump and upper tail coverts, also lesser wing coverts with a more or less dark rufous fawn ground, very finely freckled with dark, in some almost blackish brown. An irregular ill-defined, broad, white, or yellowish white half collar at the base of the neck; most of the exterior scapulars with the outer webs white or yellowish white, and tipped dark brown. Tail rufous fawn with from 7 (Hume) 9 (Sharpe) somewhat freckled transverse brown bars, 8 of which are distinctly traceable on the centre feathers. (In the specimen from the Kumaons—a single one—8 only are traceable on all the feathers.) Quills rufous fawn, broadly barred and clouded with dusky brown, which suffuses the greater portion of the inner webs near the tips. Carpal joint of wing whitish. Chin and throat rufous white or pale fawn. Some of the feathers of the throat with narrow, somewhat irregular transverse brown bars; the feathers of the ruff tipped with the same. Breast, abdomen and flanks pale rufous white or fawn color, thickly freckled and vermiculated with dark brown, thickly on the breast and sparingly on the abdomen and flanks. Tarsal and tibial plumes ferruginous or rufous white, spotted, or obscurely barred with dusky. Wing lining and axillaries silky yellowish white.

*Length*.—7 to 7.75 inches; wing 5.4 to 5.6; tail 2.75 to 3.1; tarsus 1.2 to 1.25. (Hume).

*Hab*.—The Himalayas, in the neighbourhood of Mussoorie, Kumaon, Gurhwal, below Simla and Nepal.

Captain Hutton says this species occurs in the Himalayas near Mussoorie at an elevation of five thousand feet, and nidificates in hollow trees, laying 3 pure white eggs of a rounded form, on the rotten wood, without any preparation of a nest. Diameter of egg 1.19 × 1.0 inch. The nest was found on the 19th March. *Scops gymnopus* follows in order, but it is not possible to admit the species as Indian without further proofs. Mr. Sharpe himself doubts its Indian habitat, as Mr. Reeves' specimens on which the species is founded came from Malacca and China.

**91. *Scops sunia*.** *Hodgs. As. Res.*, xix., p. 175; *id.* in *Gray's Zool. Journ.* p. 82; *Blyth, J. A. S. B.* xiv., p. 182; *Jerd Ill. Ind. Zool.* pl. xli; *Sharpe, Cat. Striges*, vol. ii. p. 67. *Ephialtes sunia*, *Gray, Cat. Mamm., &c., Nepal*; *Coll. Hodgs.*, p. 51; *Holdsv. P. Z. S.* 1872, p. 418. *Ephialtes Bakkamaena*, *Blyth, Ibis*. 1866, p. 255. *Scops pennatus*, *Hume, Nest and Eggs, Ind. B. i.* p. 65. *Ephialtes pennatus*, *Hume, Rough Notes*, ii. p. 386.—HODGSON'S SCOPS OWL.

*Adult*.—Above clear cinnamon rufous, nearly uniform, most of the feathers with a narrow central shaft line of black, a little broader than on the crown; scapulars externally yellowish buff or pure white, with a black subterminal bar; wing coverts rufous like the back with the same dusky black shaft lines, broader on the greater series, which are white at the tips of their external webs; the spurious quills externally whitish, broadly barred with dark brown; primary coverts, cinnamon, with a spot of yellowish white near the tip of the outer web, the inner web blackish brown; quills dull cinnamon rufous with faint cross-bars of brown, almost obsolete on the innermost secondaries, less distinct on the outer ones, but plainer on the primaries, many of the light interspaces on the outer webs of the latter inclining to whitish; tail cinnamon, the centre feathers nearly uniform, with only faint indications of narrow blackish cross-bars, these are broader and more distinct on the outer feathers, the exterior ones having slight indications of whitish spots on the light interspaces; lores white, the elongated bristly shafts blackish at tip; over the eye a patch of white feathers narrowly margined with black at their tips; sides of face cinnamon with silvery white shaft lines to the feathers; behind the ear coverts a distinct ruff of deep cinnamon feathers broadly terminated with black; plumes on the chin whitish; chest cinnamon, some of the feathers buffy white at the tips, with broad mesial streaks of black; rest of under surface of body for the most part white, broadly streaked down the centre with black, barred with cinnamon and freckled and grizzled with zigzag lines of blackish. Under tail coverts white, slightly washed with cinnamon at the tips, and with few indications of a central dark brown streak. Under wing coverts yellowish, those near the edge of the wing rufous mottled with brown. Edge of wing white. Bill dusky horn; feet fleshy brown. Iris bright yellow.

*Length*.—6·7 inches to 7·5; wing 5·3 to 5·7; tail 2·5; tarsus 0·9 to 1·0 (Sharpe.)

The above is a description by Mr. Sharpe, taken from a Nepaul skin collected by Mr. Hodgson.

Mr. Sharpe observes that some specimens show considerable differences, principally on the breast and abdomen, both the Penang and Madras specimens having the central black streaks very indistinct on the under-parts, while they vary *inter se* in the mottling of the abdomen. Mr. Sharpe's description answers exactly to a specimen of Scops very near *pennatus*, now in the Kurrachee Museum, collected at Kurrachee, except that the tibial and tarsal plumes are unspotted white, also the under tail coverts; another specimen has the tibial and tarsal plumes rufous fawn, with faint indications of small brown spots; the primaries too have the outer webs broadly barred with yellowish white and dark brown.

*Hab*.—India generally, ranging down the Malayan Peninsula as far as Penang. Recorded from Madras, Penang, and Nepaul; also Sind, the Punjab,

and the lower ranges of the Himalayas to Darjeeling, and everywhere where *pennatus* occurs. I cannot from the series I possess of these Scops sufficiently separate them.

In my opinion it bears the same relation to *pennatus* as *plumipes* of the Himalayas does to *S. lettia*.

**92. Scops plumipes.** *Hume, Rough Notes*, ii. p. 397; *Sharpe, Cat. Striges*, B. M. p. 85,—The PLUME-FOOT SCOPS OWL.

This species, if it is to be distinguished at all, or specifically separated, from the next (*E. lettia*) may be distinguished by the toes being feathered to the base of the toes, the general tone of colouring as shown by Mr. Hume darker, and as a rule less rufous or buffy, and the dark blotches on the head, back, ruff, breast and abdomen more conspicuous.

*Length*.—9·5 to 10-inches; wing 6·7 to 7·3; tail 3; tarsus 1·6 to 1·7; horn from gape 0·92. (*Rough Notes*.)

*Hab.*—Punjab, N.-W. Provinces, and the Himalayas (Murree, Kotegurh and Gurhwal).

According to Mr. Hume, *S. plumipes* has been found breeding at Kotegurh. A female and 4 eggs were taken from a hole in a tree on the 13th May. The eggs are intermediate in size between those of *Athene brama* and *A. cuculoides* but more spherical. They are pure white and slightly glossy, and vary in size from 1·25 inches to 1·28 in length, and from 1·1 to 1·5 inches in breadth, and not quite as large as some of those he possesses of *E. griseus*, *Jerd.*

**93. Scops lettia.** *Hodgs. As. Research*, xix. p. 176; *Sharpe Cat. Striges*, p. 85; *Hume, Nest and Eggs*, Ind. B. i. p. 67. *Ephialtes lempiji*, *Gray. Cat. Mamm. &c., Nepal Coll.* *Hodgs.* p. 51; *Jerd. B. Ind.* i. p. 138; *id. Ibis*, 1871, p. 256. *Ephialtes lettia*, *Hume, Rough Notes*, ii. p. 393; *Oates, B. Br. Burmah*, ii. p. 155.—The NEPAUL SCOPS OWL.

Forehead, a broad streak over the eye running down the interior web of the aigrettes, feathers under the eye, most of the ear coverts, loreal bristles and chin white, with a greyish or yellowish tinge, most of the feathers tipped or imperfectly barred with dark brown. Top of the head, back of the neck, exterior webs of the aigrettes, back, scapulars and tertiaries, also the lesser wing coverts, rump and upper tail coverts with a rufous fawn, or in some buffy yellow ground color, everywhere except on the outer webs of the scapulars, and in a broad half collar at base of neck, very closely and finely freckled or irregularly barred with minute zigzag lines of dark brown. Many of the feathers, especially of the head and aigrettes, with large deep brown blotches towards the tips, confined in the aigrettes to the outer webs. Outer webs of quills rufous fawn or buffy yellow, palest on the first few primaries, and with 5–6 broad irregular

mottled and imperfect transverse brown bars which extend to the inner webs. Outer webs of secondaries also buffy and much freckled and mottled with brown. Tail brown, with 5—6 imperfect and irregular transverse rufous fawn bars, the interspaces much freckled. Throat and ruff white, suffused with rufous fawn towards the tips; those of the throat with 2—3 very narrow transverse brown bars towards the end, and those of the ruff broadly blotched at the tips with deep brown. Breast and abdomen white, pale yellowish or rufous white, closely and irregularly barred with delicate wavy brown lines, many of the feathers with dark brown shaft stripes or lengthened blotches. Vent and the lower tail coverts white with or without an imperfect bar or two towards the tip; tibial and tarsal plumes white or slightly rufescent, with a few indications of narrow brown cross markings. Under wing coverts yellowish white, mottled with cross lines of dark brown near the edge of the wing, which is white. Feet yellowish fleshy; bill yellowish horny, brown at the tip and on the side of upper mandible and the edge of the lower.

*Length*.—8·5 to 10·5 inches; wing 6·3 to 7·2; tail 3·2 to 3·3; tarsus 1·4 to 1·5; bill from edge of cere 0·6 to 0·7.

*Hab.*—Punjab, N.-W. Provinces, Bengal, Concan, South India, Malabar, British Burmah, Nepaul and Sikkim. Recorded as most plentiful at Kumaon, Darjeeling, Dhurrumsalla, Kotegurh, Simla and Gurhwal. It is recorded from Arrakan, and according to Oates is common over the greater part of Pegu. Captain Ramsay procured it at Rangoon and on the Karenne Hills.

Of the habits of this species very little is known. Like most Scops Owls it issues from its retreat at sunset. It is known to breed in the valley of Surjoo between Petoragurh and Almorah in Kumaon, and Oates says, he found a nest in March. The nest according to Hume, *Rough Notes*, was a few small sticks or twigs, amongst which a few feathers were interspersed, and was placed in a narrow cleft on an overhanging precipice. Eggs 3 in number, very spherical in shape, pure white and very glossy, varying in size from 1·33 to 1·38 in length, and from 1·18 to 1·2 in breadth.

**94. Scops lempiji.** *Horsf. Tr. Lin. Soc.* xiii., p. 140; *Sharpe, Cat. Striges*, p. 91; *Blyth, J. A. S. B.* xv. pt. i. p. 182. *Ephialtes lempiji*, *Gray, Gen. B.* i. p. 38; *Wall. Ibis*. 1868, p. 24; *Hume, Str. F.* ii. p. 469; *id.* 1st list. *B. Pegu*, vol. iii. pp. 14, 28; *Hume and Davison, B. Tennaserim*, vol. vi. p. 35; *Ball, Ganges to the Godavery*, vol. vii. p. 201; vol. viii. *B. West half Malay Pen.*; *Bingham, B. Tennaserim*, vol. ix. p. 147; *Oates, B. Br. Burmah*, ii. p. 156.—HORSFIELD'S SCOPS OWL.

Above clear sandy brown, coarsely vermiculated with wavy cross lines of black, many of the feathers with broad but irregularly formed streaks of black; scapulars more or less sandy buff on the outer web, the cross lines apparent on the tips of the lower ones, but nearly absent on the upper scapulars, some of which are entirely sandy buff on both webs; round the hindneck a toler-

ably distinct collaret of sandy buff feathers, only varied with blackish markings towards the tips of the feathers; crown of head blackish in the centre, the plumes laterally rufous buff with very narrow black cross lines. Forehead and a broad streak on each side of the crown sandy buff, the feathers narrowly streaked with black along the shaft and varied towards the tip with a few blackish cross lines; the ear tufts (1 inch long) which form part of the light lateral band on the sides of the crown being pale sandy buff, slightly varied with zigzag lines of black towards the tips, which are very broadly black; over the eye a patch of buffy white feathers each terminally margined with a narrow line of black; lores sandy buff with whitish bases; sides of face sandy buff, indistinctly barred across with narrow lines of dusky black, the hindermost ear coverts rather broadly tipped with the same; behind the ear coverts an indistinct ruff of sandy buff feathers extending across the centre of the throat, many of the plumes narrowly barred across with blackish lines and all rather broadly tipped with black; rest of under surface of body entirely sandy buff, varied with narrow cross lines of dark brown, the chest with broad central spots or streaks of blackish brown, much narrower and more linear on the abdomen and flank feathers; under tail coverts nearly uniform sandy buff with a few wavy lines of blackish near the tips of the feathers; leg feathers sandy buff, the tarsal plumes crossed with distinct wavy blackish cross lines, under wing coverts sandy buff, the inner ones nearly uniform, the outermost mottled or barred with dark brown near the edge of the wing, which is whitish, the lower series entirely ashy brown; the inner lining of the quills nearly uniform ashy brown, barred with yellowish white near the base of the inner web, and with sandy buff near the tips of the feathers. Upper wing coverts darker than the back, being blackish brown, the spurious quills externally notched with sandy buff, the innermost of the least series sandy buff, mottled with zigzag blackish lines, the greater series dark brown widely notched with sandy buff towards the tip of the outer web; primary coverts blackish brown with indications of sandy buff bars, thickly obscured with blackish vermiculations; quills dark brown, barred with lighter or ashy brown on the inner webs, these light bars being represented by corresponding ones of sandy buff on the outer webs of the primaries, giving a chequered appearance to the external aspect of the wing; the secondaries outwardly sandy buff, vermiculated with lines of dark brown, the innermost sandy brown mottled and vermiculated exactly like the scapulars; rump and upper tail coverts darker sandy brown than the back, thickly obscured with blackish vermiculations; tail dark brown mottled with sandy buff, nowhere forming very distinct bars and particularly broken up towards the tips of the feathers; on the outer ones the bars are a little more distinct, about eight being distinguishable, all the light markings everywhere somewhat obscured by brown vermiculations. (Sharpe).

*Length*.—Adult Females: 8.75; wing 6.6. Males: *Length*—8.5; wing 5.8 to 6.4; tail 3.25; tarsus (not plumed the whole way, the junction of the toes always

bare) 1.25; bill yellowish at tip, plumbeous at base; iris brown, tinted with olive; feet and eyelids purplish brown.

*Hab.*—Borneo, Bangka, Java, Sumatra, Malayan Peninsula, ranging northwards in the Tennaserim Provinces of British Burma and Nepaul, and occurring in the N.-W. Provinces, Oudh, Bengal, Kutch, and the Concan.

In vol. iii. of *Stray Feathers* Capt. Fielden says that this little owl appears able to lower its ear-tufts, and that he has always seen them erected, standing out much like a cat's ears; also, that they appear to live in holes of trees during the hot weather, and during the rains are to be seen on the shady side of bamboo clumps or on fallen bamboos partly buried in long grass. According to Capt. Fielden, this species is very tame and does not fly out of range of shot when disturbed, and is chiefly found near watercourses in Thayetmyo. Hume and Davison in vol. vi. of *Stray Feathers* give as localities in Tennaserim, the Karen Hills (Rams), Pahpooon, Tavoy, Pabyin, Mergui, Tennaserim Town, and Bankasoon, generally distributed throughout the better wooded portions of the Province. Mr. Sharpe like Mr. Hume unites the Malaccan and Sumatran forms. The Tennaserim forms Mr. Hume says, are not separable, and are clearly *lempiji* of Mr. Sharpe's Catalogue, characterized by the completely unfeathered toes. Capt. Bingham in vol. xi. of *Stray Feathers* mentions having taken three eggs of this species from a hole in a tree from 15 to 20 feet from the ground. The eggs were white, round and nearly glossless, and were laid on the bare wood in a natural hollow in the branch.

**95. *Scops malabaricus*,** *Ferd. Madr. Journ.* x. p. 89; *Sharpe, Cat. Striges*, p. 94, Sub-Sp. B.; *Str. F.* vol. v. p. 135; *Bourdillon, B. S. Travancore, S. F.* vol. vii. p. 34; *Hume, Str. F.* vol. vii. p. 361. Descr. *Scops griseus*, *Ferd. Madr. Journ.* xiii. pt. 2, p. 119. *Scops lettoides*, *Blyth, J. A. S. B.* xiv. pl. i. p. 182. (*ex. Ferd. Ms.*) *Ephialtes malabaricus*, *Hume, Rough Notes* ii. p. 402; *Ferd. Ibis*, 1871, p. 348. *Scops indicus*, *Gmel. Stray Feathers*, v. 135, vii. pp. 359, 506. *Scops bakkamæna*, *Forst.*; *Hume, Nest and Eggs, Ind. B.* p. 69. *Ephialtes griseus*, *Hume, Rough Notes*, p. 398; *Murray, Hdbk., Zool., &c., Sind*, p. 121.—THE MALABAR SCOPS OWL.

A prominent tuft of disunited-webbed, bristly white feathers (with dark naked tips to the shafts, and traces on those nearest the eye of dark cross bars,) on each side of the upper mandible at its base; a faint tinge of buffy at the anterior angle of the eye; rest of the lores, feathers below and behind the eyes, including ear coverts, loose-webbed, silky and greyish white with traces of faint minute transverse brown bars; chin white; the feathers of the extreme tip somewhat bristly and curving upwards round the lower mandible; across the throat and upwards, immediately behind the ear orifice, as far as the base of the aigrettes, a band of creamy or pale buff feathers, with numerous minute, transverse, wavy brown pencillings and bars; those from the aigrettes to the sides of the throat with conspicuous dark brown tippings, which from the defining line of the disc, and a few of those in the centre of

the throat with similarly coloured spots at the tips; forehead and a broad supercilium running up the inside webs of the aigrette feathers, and a curved band at the back of the head, extending from the point of one aigrette to the point of the other, a silvery grey or greyish white, the feathers with dark brown shafts and numerous minute transverse pencillings of that colour, and some of them with terminal spots; centre of forehead, top of head, a triangular space surrounded by this grey band, a rich dark brown, purest on the centre of the forehead, with small twin spots or imperfect transverse bars and mottlings, to a greater or less extent, of pale buff; the outside webs of the aigrettes are similar, as are the feathers of the band outside and contiguous to the curved grey band, which latter seems continuous with the dark line of the outer webs of the aigrette, while the former seems to start immediately above the centre of the eye; below the dark band at the base of the neck, is another band of very similarly marked feathers, but whereas the dark brown predominates in the former, the buff much predominates in the latter. The back, rump, upper tail coverts, scapulars, wing coverts, except the greater ones of the primaries, a mixture of pale brownish grey and pale buffy, with dark brown central streaks, and numerous transverse wavy brown pencillings and mottlings. In the outside line of the scapulars the buff is very pure, and in some positions conspicuous, and while the rump, upper tail and lesser wing coverts are dingier and greyer, the centre of the upper back and the median and secondary wing coverts show more of a pale buff; the primary greater coverts are very dark brown with broad transverse buffy mottled bars; the quills are darkish brown, with numerous broad transverse greyish more or less dingy white bars, much more conspicuous on the outer webs; with the exception of a few bars on the upper portion of the outer web of the earlier primaries, which are unmottled and slightly tinged with creamy, all the rest of these bars are closely mottled and pencilled with brown; the second, third and fourth primaries are just perceptibly emarginate on the outer webs, and the first to the fourth are conspicuously notched on the inner webs; the sides of the neck behind the dark line, the breast, sides, abdomen and thigh coverts, a sort of creamy grey, very soft and silky, the feathers with narrow rich brown central streaks and numerous minute irregular, wavy, transverse pencillings; greater portion of wing lining, vent feathers and lower tailcoverts, silky greyish white, the latter, some of them, with dark central streaks towards the tips; tarsal feathers silky greyish white, with a faint buffy tinge towards the joint, and with several narrow, somewhat irregular transverse brown bars; tail feathers greyish brown with imperfect transverse mottled bars of very pale dingy buff, and with the interspaces, too, more or less mottled with the same colour. Toes and claws pale greyish brown. Soles creamy white; pads and papillæ much developed and soft; irides brownish yellow or dark brown; bill dark brown; cere dusky grey.

*Length*—7·88 to 9 inches; *wing* 5·6 to 6·75; *tail* 2·5 to 3·37; *tarsus* 1·06 to 1·19.



The above is Mr. Hume's description of *Scops indicus*, Gm., which, he says (on page 506, vol. vii. *Str. F.*) is identical with *Scops griseus* (*malabaricus* of Sharpe, *Cat. Striges*, B. M.) and *Scops bakkamæna* of Forster. Sharpe, however, does not in his references to the literature of this species allude to the names given by Gmelin and Forster.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Central India, Madras, Malabar Coast, Travancore, Ceylon, Eastern and Western Ghauts, North Guzerat, and Ratnagiri (S. Concan). Like the preceding species, it occurs in Sind, but is uncommon, and affects wooded districts only.

Breeds in holes of trees; nest commonly lined with leaves; eggs white, glossy and spherical. Nests have been taken during March and April in Sind, Central Provinces (Etawah) and near Hansi.

**96. *Scops sagitatus***, Sharpe, *Cat. B. Br. Mus.* ii. p. 98; *Oates, B. Br. Burmah*, vol. ii. p. 156; *Hume and Davison, S. F.* vi. p. 35; *Hume, S. F.* viii. p. 83. *Ephialtes sagitatus*, Cass. *Journ. Acad. Philad.* ii. p. 90, pl. 12.—THE LARGE MALACCAN SCOPS OWL.

The whole upper plumage a rather rich chestnut; the wings barred on the inner webs with brown and the tail irregularly banded with the same; each feather of the upper plumage with small arrow-head fulvous marks in the centre, and some narrow wavy black lines across; the forehead for a depth of nearly an inch, a broad supercilium and the inner webs of most of the feathers of the ear tufts white; the shafts of the feathers of the forehead nearly black; the tips of the tufts and the top of the head a darker chestnut than the back, and without any marks. The long feathers on the sides of the neck, indicating a ruff, whitish, broadly tipped with blackish; lower webs vermiculated with brown; the breast with small dark brown shaft spots and a narrow vermiculation; abdomen and vent with some rather large distinct black shaft spots on the feathers.

Bill, feet and claws, bluish white; cere pale bluish green; irides deep brown. (*Davison*). *Ex. Oates.*

*Length.*—10 to 11·5 inches; wing 7·15 to 7·2; tail 4·5 to 5; tarsus 1·2 to 1·25.

*Hab.*—Malewoon in South Tennaserim; the Southern slopes of the Mooleyit Mountain. (*Davison*)—and Malacca. Of its habits and nidification nothing is known.

**97. *Scops balli***, Hume, *Str. F.* i. p. 53; Sharpe, *Cat. Striges*, vol. ii. p. 100. *Ephialtes spilocephalus*, Ball. *Str. F.* i. p. 53.—BALL'S SCOPS OWL.

*Adult* (type of species).—General color above rufous chocolate, with a few fine nearly obsolete vermiculations of black, the whole upper surface with more or less concealed spots of rufous buff, very minute on the crown, but much more distinct on the back, where they form almost bars, all the light spots having a blackish margin; scapular feathers externally barred with white, the interspaces very pale, and inclining to ochraceous; wing coverts

colored like the back, the bases dark brown, the tips chocolate rufous, with rather more distinct vermiculations of black, the spots very plain, and forming notches on the outer web of some of the greater series; primary coverts exactly like the other, brown at base, rufescent at tips, but without the light spots; quills dark brown, nearly uniform on the inner web, and chocolate rufous at the tips of the primaries, and on the outer webs of the secondaries, which are minutely notched with fulvous; the primaries very distinctly chequered with white on the outer webs, the innermost secondaries spotted with rufous buff, resembling the scapulars; tail dark brown near the base, crossed with about six bars of dull rufous, these becoming obsolete towards the tips of the feathers, which are rufous chocolate, very finely vermiculated with black; the outer feather externally notched with fulvous, and all the feathers of the wings and tail barred with fulvous on the inner web, especially towards the base; forehead and feathers over the fore part of the eye creamy white, narrowly tipped with brown: loreal plumes rufous, the shafts ending in black hair-like bristles, barred obscurely with black; ear coverts rufous chocolate, barred and tipped with black; cheeks fulvous, all the feathers tipped, and some of them barred across with dull black; general colour of under surface rufous sandy obscured with grey, and finely vermiculated with blackish cross lines, the bases of the feathers, especially those of the flanks, strongly rufescent, broadly barred with fulvous, inclining to white near the tips of most of the feathers; and before this whitish tip, appears generally a slight indication of a diamond-shaped spot of black, evidently the remains of a streak; all the above markings, though distinct on the abdomen and flanks, are less plainly characterized on the chest, which is consequently more dusky; leg-feathers orange tawny, narrowly barred with dark brown; under wing coverts fulvous, slightly marked with brown and spotted with sandy buff near the edge of the wing, which is whitish; the lower series dark brown, fulvescent at base, resembling the inner lining of the quills, which are dark brown, notched on the outer web and barred on the inner with fulvous. Total length 7·5 inches; wing 5·45; tail 3·2; tarsus 1·15. (*Mus. Ind. Calc.*)

*Obs.*—Another specimen, very kindly lent me by Mr. Hume, differs considerably from the one described. It is not such a deep rufous in color, and is much more thickly spotted both above and below, recalling *Scops spilocephalus*; the under surface is much paler and greyer, the white bars very large and distinct and extending even on to the chest. Total length 7·5 inches; wing 5·6; tail 3·2; tarsus 1·15.

*Hab.*—Andaman Islands, Nepaul. Mr. Sharpe again observes that, "it has been suggested by Mr. Hume, that the bird from the Andamans, named *Scops modestus* by Lord Walden, must be the young bird of *S. Balli*, and I confess that until I examined and compared the types, I entertained a similar impression. Lord Walden, however, having kindly lent me the original specimen of *S. modestus* for examination, I have come to the conclusion

that the two species are quite distinct. Lord Walden has two specimens precisely similar; and they seem to me to represent the young of some species of the *S. malayanus* type. Immature they certainly are; but they present too many differences for me to refer them to *S. Balli*. The type of the latter has been lent to me by Mr. Hume, and as the wings and tail in *S. modestus* are doubtless those of the adult bird, I draw attention to the following characters which as it seems to me must separate the two: for in no other species of *Scops* is such a difference known between the young and the adult stages":—

*Scops Balli*.

*Adult*.—Greater wing coverts and secondary quills dull brown, externally rufous chocolate, with minute vermiculations of black, and a few small notches of fulvous.

Primary coverts nearly uniform blackish brown, vermiculated with rufous chocolate at the tips. Primaries dull brown, rufescent at the tips, notched with white on the outer web, the interspaces inclining to rufous chocolate.

Tail for the most part rufous chocolate, like back, with indications of lighter bars, the outer feather externally notched with whitish.

*Scops modestus*,\* *Juv.*

Greater wing coverts and secondary quills alternately barred with sandy rufous and dark brown, the latter bars rather broken up into vermiculations, especially on outer margin; the greater coverts with white spots near the tip of outer web, not present in the secondaries.

Primary coverts and primaries dull brown on inner web, but regularly banded with sandy rufous and dark brown on outer web; some of the primaries with whitish notches.

Tail regularly banded with dark brown and sandy rufous, the dark bars somewhat broken up into vermiculations on the centre feather.

Again, the feathering of the tarsus is very different, not extending nearly so far down the leg in *S. Balli* as it does in *S. modestus*.

The above is Mr. Sharpe's description in its entirety of this rare species.

**98. *Scops modestus***; *Wald. Ann. and Mag. N. History*, vol. xiii. p. 123, 1874; *Ibis*. 1874, p. 129; *Sharpe, Cat. Striges, B. M.*, pp. 101-102.

The following is Lord Walden's description, taken from the *Annals and Mag. Nat. History*, p. 12 (1874):—

\**Scops Modestus*.—*Wald. Ann. & Mag. N. H.* xiii., p. 12. *id. et Ibis*. 1874, p. 129.

Stiff loreal bristles pure white at base, some tipped with fulvous, some with dark brown or black; those of the chin pale fulvous, nearly white; over each eye a distinct broad whitish band formed by pure white feathers narrowly tipped with yellowish brown, which again in some is narrowly fringed with black; some nearest the eyes also edged throughout their length with yellowish brown. Feathers of the head and nape, pale yellowish rusty, each traversed by three or four narrow irregular light brown lines. Interscapulars and feathers of the back and rump, colored and marked like the plumage of the head and nape, but the brown transverse bands are broader and fewer; scapulars the same, but a few more or less pure white, mottled towards the tip with the prevailing tints; ear coverts and cheeks principally white with brown and very fulvous markings; throat feathers albescent with one or more narrow brown cross bands; a half collar below the throat, of feathers marked and colored like those of the nape; breast feathers tipped with brown, a sub-terminal band of pale fulvous, then a brown band followed by a much broader pure white band; abdominal feathers white, tipped with an irregular ocellated mark, centred with pale rusty fulvous and encircled with brown, then a broad white band, with a basal and narrower brown band in many of the abdominal feathers, the ocellated markings are replaced by an irregular cross band of mixed fulvous and brown; under tail coverts white, with faint sub-terminal fulvous brown bands; tarsus clothed with white feathers faintly barred with pale brown; ground color of the primaries and secondaries brown, each quill traversed by three or more pale rufo-fulvous narrow bands more or less complete, the brown intervals towards the apices of the primaries and on their outer webs much freckled with rufo-fulvous; on the outer web of the second, third and fourth primaries, the pale rufo-fulvous bands change to fulvous white or pure white; under wing coverts greyish white; median rectrices marked and colored like the apices of the primaries; lateral with clear rufo-fulvous bands running through, all tipped like the median shoulder edge, with white; tarsi feathered to within an eighth of an inch of the base of the toes; fourth and fifth quills equal; third slightly longer than sixth.

Wing 4.75 inches; tail 2.37; tarsus 1.0; middle toe with nail 1.12; bill from nostril (in a straight line) 0.65.

*Hab.*—Port Blair, S. Andamans. Occurs also in Nepal.

Nothing is known of the habits or nidification of this species.

#### Gen. **Carine**.—*Kaup*.

Cere swollen; 1st primary much lengthened; 5th escolloped on the outer web like the fourth; hind tarsus plumed; nostril pierced near the anterior margin of the cere; bill short, curved from the base, hooked; lower mandible notched.

**99. Carine brama.** *Tem. Pl. Col.* ii. pl. 68; *Sharpe, Ibis.* 1875, p. 258; *Cat. Striges*, p. 139. *Noctua indica*, *Frankl. P. Z. S.* 1831, p. 115. *Athene brama*, *Myth, Ann. N. H.* xii. p. 93; *Grey, Gen. B.* i. p. 34; *Jerd. B. Ind.* i. p. 141, No. 76; *Murray, Hdbk., Zool., &c., Sind*; *Hume, Rough Notes*, ii. p. 404; *Murray, Vert. Zool., Sind*, p. 99; *Reid, Cat. Lucknow Prov. Mus.*—THE SPOTTED OWLET.

*Adult.*—Above greyish brown, each feather with two white spots; scapulars barred with white, more broadly on the outer webs; wing coverts concolorous with the back, and spotted with white; primaries and their coverts brown, externally notched with white, and barred on the inner web; upper tail coverts and tail brown, also barred with white; head and hind neck closely spotted with white; lores, eyebrow, chin, a demi-collar and patch on the breast pure white; ear coverts brown, the feathers tipped with greyish; fore neck white, the tips of the feathers brown, forming a brown band between the white patch of the breast and foreneck; rest of under surface white, barred transversely with brown; under tail coverts, tarsal plumes, and under wing coverts pure white, the latter streaked with brown; cere dusky; bill greenish horny; toes sparsely covered with stiff bristles; irides bright yellow.

*Length.*—9 inches; wing 6; tail 3 to 3.5; tarsus 1.4.

*Hab.*—India generally to the foot of the Himalayas and Nepaul. Extends into Beloochistan, Persia, Afghanistan, Burmah and Ceylon. Extremely common in Sind, the Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Jodhpoor, Kattiawar, Central India, the Central Provinces, Kutch, Guzerat, Concan, Deccan, and South India.

Breeds during February, March, and April wherever found in holes of old trees, or in old buildings and clefts of rocks; nest scantily lined with leaves and feathers. Eggs 4-5 in number, pinkish when fresh, white when blown, of a satiny texture. In shape oval and varying in size from 1.15 to 1.45 in length, and from 0.93 to 1.1 in breadth.

The species always issues from its hiding place at about dusk, when it may be seen perched either on the branch of a withered tree, or on the telegraph wire. Barnes, in his *Birds of the Bombay Presidency*, says if they can affect an entrance beneath the eaves of a bungalow they do so, and there rear their families; in such cases they become an intolerable nuisance, being noisy disagreeable birds, and not easily driven away. Lt. Barnes has even taken the eggs of this species from holes in haystacks.

In the Mahratta Country it is known as Pinglee. Mr. W. F. Sinclair, the Collector of Alibag, says it has a habit of hovering over one spot and dropping on its prey like a kestrel or kingfisher. He has noticed this in the dry bed of the Sabarmati near Ahmedabad, and thinking them (there were 5 or 6) kingfishers, went out to see what they were catching on the sand.

*Carine glaux* occurs in Kandahar, and probably in Beloochistan; but there is no information as to its occurrence anywhere in India.

**100. *Carine pulchra*, Hume, *Str. F.* i. p. 469; *id. op. cit.* iii. p. 39; Sharpe, *Cat. Striges*, p. 140; *Subsp. a. id. Ibis*, 1875, p. 258; Hume, *Str. F. Birds of Pegu*, iii. pp. 14, 39; iv., p. 47.—THE LESSER SPOTTED OWLET.**

Mr. A. O. Hume characterizes this species as closely allied to *Carine brama*, but much smaller, the color of the upper surface usually a darker and purer brown, and the white markings smaller. Sharpe, however, gives a detailed description of an adult male from Lieut. Wardlaw Ramsay's collection, which I transcribe.

**Adult Male.**—General color above slaty brown with more or less concealed spots of white, very small on the head, where they are plainly defined; hind neck barred with white, forming an indistinct kind of collar; scapulars barred across with white, broader on the outer web; wing coverts dark slaty color, externally notched with white, the median and greater series with large rounded spots of white on the outer web; the primary coverts and quills dark slate color, notched on the outer web and barred on the inner ones with white; tail slaty brown crossed with 6 narrow bars of white, rather broader on the outer feather; forehead and eyebrow white; the lores developing into hair-like bristles; fore part of cheeks whitish; ear coverts dark slaty, barred across with white; entire throat white, extending backwards in a triangular patch below the ear coverts; a black mark running down the sides of the neck, rest of under surface white, barred with ashy brown, the bars fainter on the lower flanks; leg feathers and under tail coverts pure white, also the under wing coverts, the lower series of the latter ashy brown at tip; inner lining of quills ashy brown below and barred with white; bill brownish; the tip and culmen greenish yellow.

**Length.**—7 to 8 inches; wing 5·4 to 5·5; tail 3·1 to 3·5; tarsus 1·05 to 1·1.

**Hab.**—Burmah and Pegu; very common at Thyetmyo and Prome, and Dr. Anderson obtained specimens of it in independent Burmah.

Mr. Oates in *S. F.* iii., p. 39, (Hume) remarks that this is possibly the noisiest of all the small screech owls. They are continually quarrelling with each other at night, and even in the day time, a pair will commonly come out of some hole in a tree and screech away for a quarter of an hour.

Gen. **Heteroglaux.**—Hume.

Size medium; head small; disc imperfect; nostrils situated in the centre of the cere. Ear orifice smaller than the eye, circular, without operculum, wings short; first four primaries conspicuously notched on the inner webs; 4th primary longest; tarsi short, stout, densely covered with feathers; upper surface of toes thickly covered with stiff bristly shafted feathers.

**101. *Heteroglaux Blewitti*, Hume, *Str. F.* i., 467; *Ball op. cit.* 11, p. 382; Sharpe, *Cat. Striges*, *B. M.* p. 141.—BLEWITT'S HETEROGLAUX.**

Forehead, top and back of head, back and sides of the neck, scapulars and interscapulary region an uniform rather dark earth brown; feathers of the back of the neck and scapulars with a white bar about midway, but not visible when the feathers are in repose; lores, a line over the eye, another broad one under the eye, and a triangular patch immediately behind the eye white; bristles of the lores with the terminal halves black, longest bristles reach the tip of the bill. From the gape runs a stripe backwards, enveloping the whole of the ear coverts, in color a rather dark earth brown obsoletely barred with albescent; chin and throat and the sides of the lower mandible below the stripe pure white; a dark brown band across this, from the base of the lower mandible on one side to the base on the other; wings hair brown, darkest on the primaries, secondaries and their greater coverts, and more nearly concolorous with the scapulars, the lesser and median coverts and tertiaries. Quills with 4—5 conspicuous white spots on the outer webs, and corresponding imperfect bars on the inner webs, which are pale brown towards the tips, and pure white higher up; winglet almost blackish brown and similarly marked. Primary greater coverts similar, the rest of the greater and some of the median coverts with very large conspicuous white spots near the tips on the outer webs; lesser and most of the median coverts unspotted. Rump and upper tail coverts uniform brown. Tail hair brown, tipped white; and with three conspicuous transverse white bars, a fourth, less perfect one concealed by the upper tail coverts. Breast white, broadly tipped with hair brown. Abdomen, the tibial and tarsal plumes, toe feathers and lower tail coverts pure white; sides of abdomen, sides, and flanks broadly banded with hair brown.

*Length*.—9·5 inches; expanse 22·5; wing 5·8; tarsus 0·91. Bill straight from nostril to point 0·55; tail from vent 2·9.

*Hab.*—The Central Provinces. Frequents the densest forests of the Western portion of the Tributary Mehals.

#### Gen. **Ninox**.—*Hodgs.*

Head small; disc obsolete; bill short, cere large; wings long and pointed, the distance between it and the tip of the tail equal to, or less than the tarsus; distance between tip of first primary and that of the third equal to, or greater than the length of tarsus. Tarsus not twice the length of the middle toe, feathered toes clad with bristles.

**102. *Ninox lugubris***, *Tickell*, *J. A. S. B.* ii. p. 573; *Sharpe*, *Cat. Striges*, p. 154; *Stray F.* vol. iv. p. 378; *Ball Avifauna Chota Nagpur S. F.* ii. p. 383; *id.* iv. p. 285, 286, 374; *id.* v. 13, 413; *id.* ix. p. 42, 377; *Reid*, *B. Lucknow S. F.* x. p. 17; *id. Cat. B. Prov. Mus. Lucknow*, *Barnes*, *B. Bom. Pres.* p. 77. *Ninox Nepalensis*, *Hodgs. Madr. Journ.* v. p. 24, pl. 14. *Otus lugubris*, *Ferd. Madras Journ.* x. p. 87. *Ninox scutellatus*, *Blyth*, *J. A. S. B.* xvi. p. 5 iii; *Ferd. B. Ind.* i. p. 147; *Hume*, *Rough Notes*, p. 420.—THE BROWN HAWK OWL.



ASIO ACCIPITRINUS.





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**NINOX AFFINIS, Beavan.**

*Mintern Bree. lith.*

*Adult female*.—Above ashy brown, the head very much greyer, the sides of the face and neck being decidedly light grey; forehead, lores, forepart of cheeks and chin very conspicuously white, the loreal plumes with hair-like black shaft lines; feathers round the eyes greyish; scapulars marked externally with large bars of white, not very distinct and often half concealed; upper-wing coverts ashy brown like the back; the outer median coverts and the primary coverts deeper and more inclining to sepia brown; quills dark brown, a little deeper than the back, barred across with light ashy or greyish brown, inclining to whitish on the outer web of some of the primaries and inner secondaries, most of which are narrowly tipped with white; under surface of body white, the throat yellowish buff, streaked longitudinally with greyish brown; the chest broadly streaked with rufescent brown, the abdomen spotted, and each feather subterminally barred with the same; under-tail coverts pure white, basal ones with a few brownish bands; tail very pale greyish brown, inclining to white at the base and also tipped with white, and crossed with six blackish brown bands; leg feathers rufous brown, very slightly mottled with whitish cross markings; under-wing coverts white, barred across with dark brown, the outermost almost entirely brown, the edge of the wing white; the greater series dusky greyish brown barred with buffy white, thus resembling the inner lining of the wing, which is greyish brown barred with buffy on the inner web, these bars inclining to fulvous near the base; cere and bill green, the tip of the latter dusky; feet greyish or reddish yellow; iris bright golden yellow.

*Length*.—13·5 inches; wing 9·15; tail 5·7; tarsus 1·35.

The adult male is smaller than the female, and has only five blackish bands on the tail.

*Length*.—11·5 to 12·5 inches; wing 8·5; tail 5·3 to 5·6; tarsus 1·1 to 1·15; bill 1·0.

*Hab*.—The Indian Peninsula and the Himalayas, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Concan, Deccan, and Nepaul.

**103. *Ninox affinis***, *Beavan, Ibis*, 1867, pp. 316, 334; *Hume, Rough Notes*, p. 421; *Walden, Ibis*, 1874, p. 129, pl. v.; *Hume, Stray F.* 1874, p. 152; *Sharpe, Ibis*, 1875, p. 159; *Sharpe, Cat. B. Br. Mus.*, ii, p. 155.—The ANDAMAN HAWK-OWL.

## PLATE.

All the upper surface rufous brown; bases of the lax feathers slaty and showing through in many places; chin albescent; throat, breast, and abdomen rufous; breast and flanks albescent near the margins of the feathers, rufous at the tips and darker near the shaft; vent and under-tail coverts white; thighs, tarsi, and under-wing coverts rufous; toes covered with bristle-like feathers, albescent brown in colour. Quills brown, barred with darker brown and washed with rufous on the outer web; primary coverts sepia brown. Upper-tail coverts dark

brown, barred with fulvous; tail dark brown with 5—6 bars of darker brown. Head and ear coverts greyish chocolate, nostrils and base of upper mandible covered with stiff, white, black-shafted, lax feathers; face and a part of the forehead albescent. Bill yellowish or yellowish horny, slaty towards the base; feet and irides pale yellow. Axillaries pale buff or orange chestnut, barred or not with brown.

*Length*.—10 inches; wing 6·6 to 6·9; tail 4·3 to 4·5; tarsus 1·0; bill from gape 0·8.

*Hab.*—Port Blair, the Andamans, British Burmah and the Nicobars.

Mr. Hume describes this species from specimens received from Col. Tyler and Mr. Sharpe from specimens in Lord Walden's collection. It is no doubt very closely allied to *N. scutulata*, but differs from it in some very material particulars, especially in the markings on the abdomen and flanks, which have a streaked appearance, also in the general tone of colouring of the upper parts and in size, being much smaller (10 inches against 12·5). It is said to affect heavy forests and jungles. Mr. Davison says (*S. F.* ii. 153), he saw a bird fly off a stump, hover in front of a frond of a cocoanut palm for about four or five seconds and return to its original perch, from which it would take short circular flights, dart straight up, and again swoop almost to the ground, hawking like a *Caprimulgus*, and capturing small moths.

**104. *Ninox scutulata*, *Raffl. Tr. Linn. Soc.* xiii. p. 280; *Jerd. B. Ind.* i. p. 147; *Armstrong, Str. F.* iv. p. 373; *Hume, Rough Notes*, p. 420; *Sharpe, Cat. B. Br. Mus.*, ii. p. 156; *Bl. and Walden B. Burmah*, p. 67; *Hume, Str. F.* viii. p. 84; *Kelham Ibis*, 1881, p. 37. *Athene scutulata*, *Gray, Gen. B.* i. p. 35; *Wall. Ibis*, 1868, p. 22. *Ninox hirsutus*, (*Tem.*), *Hume S. F.* iii. p. 40; *id.*, 1874, pp. 141, 469, et 1875, p. 441. *Ninox Burmanica*, *Hume, S. F.* iv. p. 285; *Hume and Davison S. F.* vi. p. 40; viii. p. 84; ix. p. 245. *Ninox innominata*, *Hume, Str. F.* iv. p. 286; v. p. 16.—THE BROWN HAWK-OWL**

Head, sides of the face and also of the neck chocolate brown; forehead, lores and chin whitish with mesial dark streaks. The whole upper surface, wing coverts and tertiaries dark chocolate brown, the scapulars with large concealed white spots; primaries and secondaries dark brown, barred with white on the inner webs; a few of the primaries edged with rufous; throat rufous streaked with brown; breast rufous chocolate, each feather edged with white; rest of under surface rufous chocolate, barred with white. Tail ashy brown, paler at tip and with 5—6 dark bars, the basal one concealed. Under-tail coverts pure white; under-wing coverts and axillaries rufous, barred with white; edge of the wing whitish.

Irises bright yellow; cere dull green; bill bluish black; culmen and tip of lower mandible yellowish green; feet pale yellow.





**NINOX OBSOURA.**

*Length*.—11 to 12·5 inches; wing 8 to 8·75; tail 4 to 5·5; tarsus 1·1 to 1·15.

*Hab*.—Rare in the Punjab, and N.-W. Provinces, also in Rajpootana and the Deccan. Common in all the more wooded countries, as the Carnatic, the Malabar and Rutnagherry coasts and Ceylon; also in Central India, Lower Bengal and the Himalayas, extending through Assam, Burmah, Malaya to Nepaul, and to China and Japan. The Brown Hawk-Owl frequents the skirts of dense forests. It is nocturnal in its habits, issuing forth at dusk. It seats itself generally on stumps of dead trees whence it swoops, or rather skims along the surface of the ground or water in search of insects, which are its chief food; Jerdon says, and occasionally mice or reptiles. It has a peculiar call which it frequently utters at night, resembling, as Tickell says, the cries of a strangling cat; Buchanan likens it to the cry of a hare when caught by hounds, and Elliott, "the cries of a child." Oates says its note resembles the word *Whoo-wuk*, repeated several times.

Nothing is known of its nidification.

**105. *Ninox obscura*, Hume, *Str. F.* i. pp. 11, 421; Ball, *Str. F.* i. p. 55; *id.* *J. A. S. B.* xxxix. 1870, p. 240; Walden, *Ibis*, 1874, p. 129, pl. iv; Hume, *Str. F.* ii. p. 153; Sharpe, *Ibis*, 1875, p. 258; *id.* *Cat. Striges. B. M.* p. 177; Gurney, *Ibis*, 1854, p. 171.**

#### PLATE.

Lores and forehead, yellowish white; tips of bristles in front of and below the eye black; cheeks, ear coverts and sides of neck deep chocolate brown; chin whitish. Whole upper surface a rich, uniform chocolate brown, darker on the head and nape; throat yellowish white with a rufous brown patch; rest of under surface of body reddish or rufous chocolate, darker on the fore-neck and breast, paler on the flanks and abdomen, the former with some imperfect, and concealed fulvous bars or spots. Under-tail coverts buffy white, barred with dark brown; under-wing coverts like the back, with a rufescent tinge in some specimens. Primaries like the back, but margined on the outer web with buffy white or whitish brown, their coverts blackish; tail dark brown narrowly tipped with whitish, and with 3-4 narrow bars of yellowish brown. Bristles on the sides of the toes dark brown. Cere and culmen greenish slate; iris bright yellow; feet pale yellow; claws black.

*Length*.—11 to 12 inches; wing 7·55 to 8·5; tail 4·75 to 5; tarsus 1 to 1·1; bill at front ·75.

*Hab*.—The Islands of the Bay of Bengal, Nicobars, Port Blair, and the Andamans.

Mr. Gurney notices this species in his article on "Eastern Owls," and says it bears a curious similarity in the nearly uniform fuscous colouration of its under parts to the more southern *N. Theomacha*, from which it is readily dis-



tinguishable by its larger size and darker abdomen, as well as by the tail having 4—5 dark (3—4 yellowish white) bars and also bearing a white tip.

Lord Walden in the *Ibis* for 1874, p. 129, notes, that the fourth primary of a ♂ from South Andamans, slightly exceeds the 3rd and is the longest; the third exceeds the 5th; and Mr. Gurney, from examination of three specimens (1 ♂ and 2 ♀ ♀) also from the same locality, remarks that the male bird exhibits the curious peculiarity of being longer in the wing than the two females (8·80 inches against 8·20 and 8·40 inches of the two females).

Mr. Davison, the Curator of Mr. Hume's Museum, and one of the most energetic and experienced collectors in India, secured two specimens of this bird at Port Momat, S. Andamans. He says, he knows next to nothing about the habits of the species, and adds that the first specimen he saw flitted by him and settled on a small tree close to the water's edge. On the following evening (15th April), he secured a second specimen which was seated on the stump of a tree. It rose as he approached, took a long sailing circular flight and returned to its perch. The hoot, he says, is a peculiar one, quite unlike that attributed to the Common Hawk-Owl. It is a low, subdued, but clear double note.

Gen.—**Glaucidium**.—*Boie*.

Nostrils tubular in the middle of a swollen cere; wing short and rounded, the distance between it and the tip of tail much greater than the length of the tarsus, which is feathered and is as long as the mid toe; 1st quill shorter than the next four, emarginate; 4th and 5th about equal. Tail rounded.

**106. *Glaucidium brodiei***, *Burton, P. Z. S.*, 1835, p. 152; *Schl. Mus. P. B. Striges*, p. 38; *Ferd. B. Ind.* i. p. 146, No. 80; *Hume, Rough Notes*, ii. p. 417; *Sharpe, Ibis*, 1875, p. 259; *Str. F.* vi. 39; ix 148. *Athene brodiei*, *Blyth, J. A. S. B.* xi. p. 163; *Gould, B. Asia* pl. xxii; *Oates, B. British Burmah*, ii. p. 159.—The COLLARED PIGMY OWLET.

Head, back, wings and tail dusky brown, banded rather broadly on the head and narrowly on the back with white or fulvous white; forehead with small spots of the same. Hind neck with a fulvous collar and a patch of black on each side. A white shoulder patch formed by the white markings on the outer web of the scapulars. Primaries dark brown with notches of white on the outer web; secondaries the same, the bars on the inner ones larger. Upper-tail coverts dark brown, barred and spotted with white or fulvous white. Tail tipped with whitish and with 7—8 bars across. Lores and supercilium white, the lores intermixed with black bristly feathers. Chin and fore neck white, separated by a dark band; rest of under surface brown with pale fulvous or white bars; under-wing coverts white, in some tinged yellowish with some few brown markings near the edge of the wing. Bill pale greenish yellow; toes a deeper yellow; irides bright pale yellow.

*Length*.—6·5 to 7 inches; wing 3·45 to 3·75; tail 2·75 to 2·8; tarsus 0·8.

*Hab.*—Northern India, the Punjab, N.-W. Provinces, Bengal, Assam, the Himalayas, and Nepaul. Besides the latter it is noted from Mussoorie and Darjeeling, also from Amherst, Mergui and Tennaserim, from Tavoy northwards.

Mr. Hume says this pretty little owlet though nocturnal in its habits is very watchful by day; when seated motionless it appears as a knot or excrescence on the branch, but "point in its direction," or the moment your eyes are on it, it is aware that it has been recognized and darts away. It is said to be as daring as the Falconets. Breeds during May and June, making little or no nest in the hollow of trees. Nest usually lined with feathers. Eggs 3—4, nearly round, and pure white. Feeds on young birds, mice, and insects. The flight of this bird, Mr. Thompson says, is rapid and vigorous. *Glaucidium castaneonotum*, Bly., occurs in Ceylon, and may be found in Travancore or some part of Southern India. *G. castonopterum*, a Javan species, is said to occur in Tennaserim, but of this there is no reliable information, and Mr. Hume surmises that if such a bird should be found in British Burmah, it will prove a distinct species. The coloration of the Javan bird is a deep chestnut with the usual barrings and a chestnut streaked abdomen. Wing 5·7 inches.

**107. *Glaucidium radiatum*, Tick. *J. A. S. B.* ii. p. 572; Sharpe, *Ibis*, 1876, p. 259; Walden, *Ibis*, vol. vi. 1876, p. 343; Sharpe, *Cat. Striges B. M.* p. 217. *Athene radiata*, Bly. *J. A. S. B.* xv. p. 281; *Jerd. B. Ind.* i. 143, No. 77; *Ball Str.* ii. p. 383; *Str. F.* iv. 373; vi. 36; *Hume, Rough Notes*, ii. p. 409; *id. Nests and Eggs Ind. B.* i. p. 70; *Vidal, B. South Concan, Str. F.* p. 39.—THE JUNGLE OWLET.**

Above dusky brown, barred with rufous buff or rufescent whitish, rather broader on the hind neck; outer web of scapulars whitish with a few dusky spots or bars. Wing coverts rufescent, the bars broader than on the back. Edge of the wing white. Some of the outer webs of the greater coverts with large white spots; primaries and their coverts and secondaries dark brown, banded with rufous, the bands on the secondaries narrower than those on the primaries; tail dark brown *narrowly tipped with whitish and with eight narrow white bands*; chin, throat, and cheeks whitish; rest of under surface barred, except the centre of the body, which is barred transversely with dusky and whitish, the bars on the sides of the breast rather fulvous. Under-tail coverts white, with brown spots. Bill and feet greenish horny; iris golden yellow; claws dusky.

*Length.*—8 to 8·5 inches; wing 4·9 to 5; tail 2·85 to 3; tarsus 1·0.

*Hab.*—India generally, from the Himalayas southwards through the Peninsula, but not extending far below the Neilgherries. Recorded from the N.-W. Provinces, Bengal, the Central Provinces, the Concan, Malabar and Travancore,

also Rutnagherry, South India on the Neilgherries, British Burmah (?) and Nepal. Whether this species is distinct from *Malabaricum* or not, has not been quite settled. Much has been written on the various phases of plumage of both these species, and it is argued that this is due to climatic influence. Sharpe, however, keeps the northern and southern forms distinct, calling *Malabaricum* a sub-species of *radiata*. I have not had a sufficient number of specimens of the two forms, and hence cannot give an opinion. I follow Sharpe in keeping both separate till some one with enough materials will decide the points raised.

The Jungle Owlet breeds in the early part of the summer in holes of trees, during April, May, and June.

The eggs are pure white, round, and measure 1·2 by 1·0. The young are generally fully fledged by the end of June. It is easily tamed, and in confinement will eat readily of raw or cooked meat, insects, frogs, &c. Both adults and young are excessively noisy, and when teased make a peculiar hissing chattering tremulous noise. The cry, according to Mr. R. Thompson, is a too-roo-roo-roo, &c., drawn out to a considerable length, and resembles that of the Common Goanna or Monitor Lizard.

**108. *Glaucidium malabaricum*, Bly. *J. A. S. B.* xv. p. 280, *et.* xix. p. 500; *Ferd. B. India*, i. p. 144, No. 78; *Hume, Rough Notes*, ii. p. 413; *Sharpe, Ibis*, 1875, pp. 6, 259; *id, Cat. Striges. B. M.* p. 218. *Athene castanoptera*, Bly. *J. A. S. B.* xiv. p. 184. *Str. F.* iv. 372; v. 201.—THE MALABAR OWLET.**

Head, neck, and interscapulars uniform lightish rufous with narrow close dusky bars; wings the same, but the colour deeper and the bands broader; primaries dark rufous, the first three barred throughout with dusky, the rest mostly unspotted or obscurely banded at the base and distinctly at the tip; secondaries barred throughout with rufous and dusky; outermost scapulars with large white spots forming a shoulder patch. Under surface of body barred throughout with rufous and dusky on the breast and dusky and white on the belly and flanks. Vent and under-tail coverts pure or buffy white; upper-tail coverts dusky barred with white; tail dusky tipped with white and crossed with nine other bars of white. Under-wing coverts white with a few brown markings near the edge of the wing; the greater series with dusky tips, tibial and tarsal feathers white, with a few remains of dark bars. Bill and claws black; irides yellow.

*Length*.—7·8 to 8 inches; wing 4·5 to 4·8; tail 2·5 to 2·9; tarsus 0·9.

*Hab.*—Southern India. Recorded from the Malabar Coast, Cochin, Wynaad, Southern Mysore, Travancore, Madras and the Concan.

*Habits* like the last.

Mr. Frank Bourdillon, writing to Mr. Hume, says, this is a resident in Travancore, preferring the low jungles, though he has often heard one as high as 2,500 feet in heavy jungle. Feeds during the hour after sunrise and before sunset. Mr. Hume observes that all the specimens got from Travancore are typical *Malabaricum* with the upper parts strongly ferruginous.

**109. *Glaucidium cuculoides*, Gould, Cent. Him. B. pl. 4; Sharpe, Ibis, 1875, p. 259; id. Cat. B. Br. Mus. ii. p. 219; Hume, and Dav. S. F. vi. p. 37; Hume, Str. F. viii. p. 84; Bingham, Str. F. ix. p. 148; Oates, Str. F. x. p. 183; id. B. Br. Burmah, ii. p. 162. *Noctua cuculoides*, Vig. P. Z. S., 1831, p. 8. *Athene cuculoides*, Jerd. B. Ind., i. p. 145, No. 79; Hume Rough Notes, ii. p. 414; id. Nests and Eggs, p. 71; id. Str. F. iii. p. 39; Wardlaw-Ramsay, Ibis, 1887, p. 454; Marshall, B. Chumba, N.-W. Himalaya, p. 408.—The LARGE-BARRED OWLET.**

Whole upper plumage and wings brown, closely barred all over with ochraceous; ear coverts, sides of the neck, a band across the throat and the whole breast similarly banded. A broad moustachial band reaching to the ear coverts, and a large patch on the foreneck white; outer webs of some of the scapulars and outermost wing coverts with large patches of white; centre of abdomen, vent and under-tail coverts white, the sides of the former and flanks streaked with rufous; axillaries and under-wing coverts pale buff. The latter with a few brown streaks; tail blackish, tipped with white *and with six bars of the same colour*; thighs in front rufous; iris bright yellow; eyelids greenish plumbeous; cere brown; bill pale green, the tip of the upper mandible yellow. Legs greenish yellow; claws brown.

*Length*.—8·7 to 8·9 inches; wing 5·7 to 5·8; tail 3·2 to 3·8; tarsus 1 to 1·02; bill from gape 0·9. Females larger.

*Hab*.—The Himalayas to Nepaul, extending to Burmah and Siam. Found in Assam, Arracan, and Tenasserim, and also in China. Recorded from the Punjab, N.-W. Provinces, Bengal, the Central Provinces, British Burmah, and Nepaul. Spread all over British Burmah and along the lower ranges of the Himalayas, and generally throughout Northern India. Breeds in the Himalayas from March to May, laying 3—4 eggs, which are pure white and glossy. In shape almost spherical to broad ovals, and measure from 1·38 to 1·48 × 1·17 to 1·24 inches. The nests are made in holes of trees, without any lining. The species inhabits forests, gardens, and bamboo groves or large orchards. *G. Whitelyi* is another species found as yet only in Japan and China, and is believed to occur in Burmah.

### Sub-Family II.—SYRNIINÆ.—HOOTING OWLS.

Wings moderate, somewhat rounded; tarsus feathered. Head larger than in the last; ear conch larger than the eye, with large operculum shutting in the ear; facial disk distinct; wings long; 2nd and 3rd quills longest.

Gen. **Asio**.—*Briss.*

Characters, same as those of the Sub-Family.

**110. Asio otus**, *Lin. S. N.* i. p. 132; *Sharpe, Cat. Striges*, p. 227. *Otus vulgaris*, *Fleming, Brit. An.* p. 56; *Gray, Gen. B.* i. p. 40; *Gould. B. Eur.* pl. 39; *Ferd. Birds Ind.* i. p. 125, No. 67; *Loche Exp. Sci. Alger. Ois.* p. 96; *Hume, Rough Notes*, ii. p. 363; *Murray, Hdbk., Zool., &c., Sind*, p. 121. *Murray Vert. Zool. Sind*, p. 99.—*Otus communis*, *Less. Traité*. p. 110.—The LONG-EARED OWL.

Head, neck, and breast yellowish brown, or tawny yellow, with mesial dark brown longitudinal streaks to the feathers, many of which are margined whitish and pencilled with dusky brown; ear-tufts 1—1½ inch, brownish black in the middle, edged tawny, the upper edge of the inner web whitish; forehead finely mottled, whitish, dusky and ferruginous; face dusky white with hair-like lines of black; feathers round the eye blackish; ear coverts yellowish, tipped with dusky brown; facial ruff white, the feathers tipped with black; chin white; throat with stiff feathers in continuation of the ruff, spotted and centred with dark brown; rest of under surface orange-buff, sometimes whitish, with a broad mesial streak of dark brown, the feathers of the abdomen having also dusky frecklings. Under-wing coverts buffy or light tawny, a few of the feathers narrowly lined with brown. Back dusky brown, much mottled with orange-buff and whitish; wing coverts and scapulars with a large oval spot on the outer web. Edge of wing white; wing underneath yellowish white, the dark bars on the inner webs distinct. Primaries dusky brown, with bars of tawny or reddish yellow, the tawny interspaces towards the tips of the feathers narrow, and vermiculated with brown; the tips entirely brown. Secondaries greyish white, barred with dusky; the margins of the inner webs buffy; upper-tail coverts yellowish brown, edged and vermiculated with dusky brown. Upper-tail coverts white, the shafts towards the tips of some of the feathers with a broad dusky spot. Tail tawny buff or yellowish brown, crossed by seven bands of dark brown and vermiculated near the tip, the outer feathers with ten narrow dark brown bands. Tarsal plumes tawny or yellowish buff and unspotted. Bill of a dusky horn colour. Irides orange yellow.

*Length*.—13·5 to 14 inches; wing 11·75; tail 6; tarsus 1·6.

*Hab.*—Throughout Europe, across Siberia to Japan and China (*Sharpe*); the Himalayas from Nepaul to Cashmere, N.-W. Provinces, the Punjab and Afghanistan. It is also recorded from Eastern Turkistan, N. Africa and Egypt. In Sind it is a winter visitant. Nothing is known of the breeding of this species in India. Mr. Hume, however, in *Rough Notes*, says he has reason to believe it is a permanent resident of the forests of the interior of the Himalayas. Yarrell and others assert that it does not make a nest for itself, but occupies the deserted habitation of some other bird, as the crow, ringdove,

&c. The eggs are four in number, white, oval and smooth, 1·7 by 1·29. The young are hatched by the end of April.

**III. *Asio accipitrinus*, Pall. Reis. Russ. Reichs. i. p. 455 ; Sharpe, Cat. Striges, p. 225. *Strix brachyotus*, Forst. Phil. Trans. lxii. p. 384 ; Gm. S. N. i. p. 289. *Otus brachyotus*, Steph. Gen. Zool. xiii. pl. 2, p. 57 ; Ferd. B. Ind. i. p. 127, No. 68 ; Gurney, Ibis, 1868, p. 150 ; Hume, Rough Notes, ii. p. 364 ; Murray, Zool., &c., Sind, p. 118. *Asio brachyotus*, McGill. Br. B. iii. p. 461. *Asio accipitrinus*, Newt. Ed. Yarr. Brit. B. Shelley, B. Egypt.—THE SHORT-EARED OWL.**

#### PLATE'

*Adult*.—Head, neck and back dark brown, the feathers broadly margined with ochraceous buff; the scapulars much paler on their outer margins, and with brown irregular markings, which form ovate spots of whitish buff. Secondaries brown, mottled with ochraceous buff and tipped and margined on the inner web with whitish buff; primary coverts dark brown with a few ochraceous spots. Quills ochraceous buff, tipped whitish and with dark brown bands, which are distinct on both webs. Upper-tail coverts ochraceous, faintly edged with a darker shade; under-tail coverts pale fulvous, with a mesial dark streak on some of the feathers; tarsal plumes unspotted ochraceous. Ear-tufts 0·5 inch long; chin whitish, in some specimens buffy. Ruff whitish, or whitish buff, and speckled with spots of brown; plumes above the eye whitish buff, with mesial dark brown streaks; facial aspect dull white, the lores brownish; feathers round the eye black; ear coverts ochraceous, with narrow black shaft-lines. Breast and entire under parts ochraceous buff streaked with dark brown mesially, these streaks narrowing into linear shaft lines on the lower breast and abdomen. Under-wing coverts buffy white, with a few dark streaks. Tail dark brown, whitish at tip, and with 6 bars of ochraceous buff mottled with brown. Cere and bill brownish black.

*Length*.—14 to 15 inches; wing 13; tail 5 to 6; tarsus 1·75. *Female*, *length*—15·5 inches; wing 12·5; tail 6·7; tarsus 1·85.

*Hab*.—Throughout Europe, and nearly all India; it occurs in Beloochistan, Persia, Egypt, East Turkistan, Gilgit (Cashmere) and Nepaul; also in the Punjab, N.-W. Provinces, Oudh, Bengal, Central and Southern India, Kutch, Guzerat, Rajputana, the Concan and Deccan. In Sind it is a winter visitant, and is not uncommon, especially in the Northern and Central parts, keeping to low jungle and long grass.

This is another species of whose breeding in India nothing is known. In England it is known to lay its eggs on the ground in long grass. Eggs 3—4 in number, smooth and white, 1·67 + 1·29 inches. Breeds in April and May. In India it is found in long grass. It is a migrant coming in about the beginning of winter.

Gen. **Syrnium**.—*Savigny*.

Head not so large as in the *Striges*. No ear-tufts; toes thickly feathered, with hair-like bristles or entirely bare; feet stout. Ears moderately large and operculate.

**112. *Syrnium Butleri*, *Asio Butleri*, *Hume*, *Str. F.* vii. 1878, p. 316; *Tristram*, *Ibis*, 1880, p. 245.**—THE MEKRAN WOOD-OWL.

Chin, cheeks, entire space inside the ruff white, tinged fawny below and behind the eye; some few of the loreal bristles dark-shafted towards their tips, but inconspicuously so; feathers of the ruff across the throat and as far as opposite the gape, are grey brown, margined throughout their length pretty broadly, and tipped with cream colour, more rufescent and fawny towards the tips; the rest of the feathers of the ruff from gape round and behind the eye are very peculiar; when examined closely they are rather pale, French grey on one surface, warm brown on the other, and obscurely tipped with rufescent fawn; forehead, crown, occiput and nape pale rufescent fawn obscurely mottled with dusky brown; when the feathers are closely examined, the basal portions are bluish dusky, the rest pale rufescent fawn or buff with an obscure ill-defined dusky brown bar, some little distance from the tip, and another imperfect bar or spot of the same colour near the tip; lesser-wing coverts from the carpal joint uniform smoky brown, somewhat intermediate between a hair brown and an earth brown; scapulars, back, median and greater-wing coverts dull pale rufescent fawn, clouded and streaked with brown, most of the secondary, median and greater coverts having more or less pure white spots or blotches on the outer webs near the tips. First primary almost uniform brown, edged creamy white on the outer web, and a mottling of the same towards the middle of the inner web near the base; rest of the quills lighter brown, regularly barred with pale fawn colour, duller and shaded with grey brown on the inner webs towards the tips becoming white away from the shaft towards the bases; tail tipped with nearly pure white, and exactly of the same character as the quills, but the bars on the two central feathers are reduced to mere blotches on either side of the shaft; breast and abdomen creamy, the sides of the breast with a few indistinct transverse dusky bands, and those of the latter with narrow brown shaft stripes. Entire wing-lining, basal portions of the quills, vent, lower-tail coverts, legs and feet pure white; lower surface of the tail grey brown barred with white.

Bill and cere blackish horny; culmen and tips of both mandibles pale yellowish horny; feet greenish olive.

*Length*.—14 inches; wing 9·95; tail 6; tarsus 2·05; bill from gape 2·0; from margin of cere to point 0·6.

*Hab*.—Oormara on the Mekran Coast.

This bird has been included in the Indian Avifauna owing to the country in which it was first discovered, being under British Administration. Oormara is only about 60 miles from Kurrachee, the seaport of Scinde, and it is not unlikely it may be found to occur there. Of its habits and nidification nothing is known.

**113. *Syrnium niviculum*, Hodg. in Gray's Zool. Misc. p. 82; Blyth, J. A. S. B. xix. pp. 185, 550; Ferd. B. Ind. i. p. 124, No. 66; Hume, Rough Notes, ii. p. 359; Sharpe, Cat. Striges, iii. p. 250.—THE HIMALAYAN WOOD-OWL.**

Above mottled dark brown and fulvous, the outer webs of the scapulars white or with a fulvous tinge, and forming a conspicuous shoulder patch. Quills brown with whitish interrupted bands; tail brown with 8—9 bars of light brown marbled towards the tips; sides of the neck and eyebrows also with a good deal of white; chin whitish; disc greyish mottled with brown, slightly darker round the eyes; ruff with a few brown markings; lower parts mottled with brown, white and fulvous bars and lines; tarsal feathers narrowly barred brown, and the toes feathered to nearly the tips, where there are 2—3 moderate transverse scales. Irides dark brown; bill pale fleshy yellow; cere faintly brown.

*Length*.—16 to 18 inches; wing 11 to 12·7; tail 7 to 7·7; tarsus 2 to 2·15.

*Hab*.—The Punjab, N.-W. Provinces, and from Murree (the Himalayas), extending into Western China. Mr. Hume has had it from Darjeeling and Kotegurh, and Capt. Marshall got one at Kussowlie, at a height of only 5,000 feet above the sea.

The species is allied to the European *S. Aluco*; the difference is in the smaller size of *Aluco*, and the proportionally larger and stronger bill and claws of the Indian species.

Nothing appears to be known of its nidification.

**114. *Syrnium sinense*, Lath. Ind. Orn. Supp. p. xvi. Strix seloputo, Horsf. Trans. Lin. Socy. xiii. p. 140. Strix pagodarum, Tem. pl. col. 230. Bulaca sinense, Hume, Rough Notes, ii. p. 357. *Syrnium sinense*, Sharpe, Cat. Striges, B. Mus. ii. p. 261; Hume, S. F. iii. p. 37; id. and Davison S. F. vi. p. 28; Oates, S. F. vii. p. 45; Hume, S. F. viii. p. 83; Bingham, S. F. ix. p. 146; Oates, S. F. x. p. 182; id. B. British Burmah, ii. p. 164.—THE MALAYAN WOOD-OWL.**

Forehead, chin, and facial disc rather bright ferruginous without marks; lower edge of disc whitish; a large patch on the throat pure white; a space between this patch and the chin ferruginous; ear coverts black, barred slightly at the lower end with ferruginous; top of head and neck very dark chocolate brown, each feather with two white spots on either web, the spots becoming larger as they recede from the front of the head; sides of the neck



darker, the spots turning into bars; the back, scapulars, rump and upper-wing coverts chocolate brown, paler than on the head; the back with large white bars; the lesser-wing coverts with a few white spots; the greater-wing coverts with large white spots on both webs; the rump barred with white; the scapulars with large bar-like drops of white; the exterior feathers, which are usually concealed, being almost entirely white, with ferruginous brown bars; primary coverts, plain rufous brown, the general colour of the wings much the same as that of the upper plumage, but duller; the primaries and secondaries barred with fulvous on both webs, except on the first four primaries, where the outer webs are barred with whitish; the tertiaries broadly barred with white, turning to rufous bars at the bases of the feathers; tail much the same tint as the back, the central rectrices very sparsely barred with whitish (probably disappearing with age), the others barred narrowly on the outer and broadly on the inner web with fulvous white; all the rectrices tipped with dull white; the lower plumage with the under-wing coverts white with numerous bars of dark brown; bases of the feathers which are very much decomposed and bright fulvous in colour, show through the plumage in patches; the bars on the thighs narrower and more numerous.

In the young the whole upper plumage is white, barred with chocolate brown, the tips to the tail feathers very white and broad; the whole lower plumage white, closely barred with brown; thighs plain fulvous white; facial disc as in the adult.

Bill and cere dark horny brown; the mouth flesh colour; iris dark brown; edges of the eyelids pink; toes brown; claws dark horn.

*Length*.—18 to 20·5 inches; tail 7·6 to 9; wing 14·4 to 15·6; tarsus 2·15 to 2·3; bill from gape 1·5 inches.

*Hab*.—British Burmah, Java, Siam, Cochin-China, Borneo, and Penang; distributed over Pegu and Tennasserim. Common near Kyrikapadien and the towns of Pegu and Rangoon. Capt. Fielden procured some at Thayetmyo, and Mr. Davison and others in the extreme south of Tennasserim, while Capt. Bingham heard its note in the Thoongyeen Valley. According to Oates the species frequents ever green forests and groves of trees near pagodas and ruined temples or monasteries. It is strictly nocturnal in its habits, and feeds principally on insects. During the day it roosts on a high branch well protected by leaves. Of its eggs I have no record, but Oates says he took the young birds in March, and that the eggs appear to be deposited in a roomy fork of some large tree, at no great height from the ground.

**115. *Syrnium ocellatum*, Less. *Rev. Zool.* 1839, p. 289; Gould, *B. Asia* pt. xxii.; Sharpe, *Cat. Striges*, ii. p. 263. *Bulaca ocellata*, Hume, *Rough Notes*, ii, p. 383; *id.* *Nests and Eggs*, *Ind. B.* p. 61. *Syrnium sinense*, Blyth, *J. A. S. B.* xi, p. 162; *Jerd. B. Ind.* i. p. 123. *Bulaca sinensis*, Gray, *Cat. Acc.* 1844, p. 43; Blyth, *Ibis*, 1865, p. 29.—THE MOTTLED WOOD-OWL.**

General colour above rufous-orange, the feathers of the crown and hind-neck mottled with black and white, each feather having a double white spot at the tip, preceded by a distinct black bar; back greyer, each feather being orange at the base, but for the terminal half crossed with distinct zigzag bars of dark brown, the interspaces being white, thickly mottled with brown vermiculations; the scapulars externally white, crossed with narrow brown bars, forming a conspicuous shoulder patch; wing coverts coloured like the back and mottled with grey in the same manner, the greater series rather whiter than the rest; primary coverts dark brown with a few zigzag markings of ashy grey on the outer web. Primaries dark brown, barred across with lighter brown, these bars nearly obsolete on the inner web and represented by an ashy spot on the outer one, the spots clouded and obscured by brown vermiculations, the inner webs orange for the basal half with brown cross bars; secondaries for the most part ashy white like the back, vermiculated with brown; the tips of the feathers brown, crossed in the same way with ashy whitish bars, there being altogether 8—9 in number on the tail; sides of the face greyish-white, mottled all over with minute black bars, the ear coverts orange in the centre; facial ruff dark chocolate brown, many of the feathers spotted with white, those on the lower parts inclining to orange and the plumes under the chin being white with narrow black bars, in both instances assimilating to the adjacent parts of the body; chin and the patch on the fore-neck white, the plumes on the latter with a few narrow terminal bars of dark brown; rest of under surface white, narrowly barred with dark brown, the whole of the feathers orange at base, this colour showing conspicuously on the chest; leg feathers as well as under-wing and tail coverts white, barred with dark brown; the greater series of under-wing coverts blackish with light orange-buff bases, thus resembling the inner lining of the wing which is orange-buff for the greater part of the inner webs of the feathers, the ends being brown barred across with lighter brown; bill horny black, pale and greyish on lower mandible; cere dingy, a dirty pinkish, brownish or yellowish horny. Varies a good deal. Bare part of toes pale greenish brown; soles yellowish white; iris brown, light in some species, and deep or dark in others. (Hume.)

*Length*.—17·9 to 21 inches; wing 13·0 to 13·9; tail 7·4 to 8·5; tarsus 2·05 to 2·4.

*Hab*.—Throughout the greater part of India, east of the Sutlej, and of the Indus below its junction with the former, and west of the Ganges. It is recorded from the Punjab, N.-W. Provinces, Central and Southern India, the sub-Himalayan Valleys, the Central Provinces, Kutch, Kattiawar, Guzerat, Mount Aboo, the Concan and Deccan. According to Jerdon in the Carnatic, in parts of Mysore and the forests of Malabar, but not in Ceylon nor in Lower Bengal.

This beautifully plumaged species is only found in well-wooded districts at no great elevation. Its hoot is loud, harsh and resonant. Of its nidification little is known. The normal number of eggs is two, deposited, like as in the previous species, in large depressions or in the fork of trees, generally peepul or mango at about from 10 to 20 feet from the ground. There is no nest, so to speak, but a little dry touchwood, and a few dead leaves. The eggs are round, oval, white, and in some instances with a delicate creamy tinge. In length they vary from 1·94 to 2·1 inches and in breadth from 1·63 to 1·75. The months in which the young are hatched are generally April and May, sometimes at the end of March. Lieut. Barnes, however, says he took full fledged nestlings from a large hole in a tree at Saugor, Central Provinces, as early as the 22nd February.

**116. *Syrnium newareense*,** *Hodgs. Asiat. Res.* xix. p. 168; *Hume, Rough Notes*, ii. p. 348; *id. Nests and Eggs, Ind. B.* p. 60; *Jerd. B. Ind.* i. p. 122, No. 64.—THE NEPAUL BROWN WOOD-OWL.

Upper parts rich brown, quill and tail feathers barred whitely brown, under surface pale rusty, with numerous narrow brown bands; inner scapulars the same; throat white; rump and upper-tail coverts also faintly barred; forehead, crown and occiput deep blackish brown; the stiff bristle-like feathers in front and above the angle of the eyes dark-shafted; legs and feet densely feathered to the last joint of the toes; bill greenish horny, bluish towards base; cere (?) plumbeous.

*Length*.—21·5 to 24 inches (28 ? *Sharpe*); wing 15·2 to 15·5; tail 9·75 to 10·75; tarsus 2·75 to 3.

*Hab*.—N.-W. Provinces, the Himalayas, and Nepaul. Recorded from Simla, Koteghur, B. Burmah (?), Bussahir, Kumaon, and the Neilgherries (?)

This species, Mr. Hume says, so far as he knows, lays in May. He says, "contrary to what might have been expected, the nest was placed on a shelf projecting from the face of a low precipice; immediately above it projected a large point of rock from which depended a perfect curtain-of bushes which reached the tops of the trees growing at the foot of the precipice. The nest, according to the Paharees, with Mr. Hume, was composed of sticks with a few feathers intermingled. The nest contained (6th June), three very young birds. Mr. Hume like other Ornithologists, who have of late years worked at the subject, doubts the distinctness of this species from *S. indranee*. The following remarks are his, and the quotations too from his invaluable Scrap-book, which gives some very material information in regard to measurements of such of the specimens of this species in his possession, from which it will be seen that the dimensions very little exceed those given by Dr. Jerdon for *Indranee*, and fall short of those which he gives for *Newarensis*. A Burmese skin differed in none of its dimensions by more than a mere fraction from the skin of an old and a young male; he adds that notwithstanding Mr. Blyth's opinion." I nevertheless

still hold, that the distinction of size is, *to say the least*, neither so constant nor so material as has been asserted, and has by no means been so established as to render (if Dr. Jerdon's measurements of the Southern race are reliable), a specific separation of the Northern and Southern birds, *certainly* requisite. Dr. Jerdon gives the wing of Southern species at from 13 to 14 inches.

The Burmese bird has them.....	14·8	„
The two Simla specimens (Young).....	15·2	„
The adult .....	15·5	„
A Bussahir specimen .....	16·2	„
A large Kumaon one.....	16·7	„

While Dr. Stohckza wrote to say, that a specimen 21 inches in length had wings a little over 18 inches, and a Himalayan specimen from Baron Hugel was decidedly smaller, the wing measuring 15 inches. The species affects well-wooded localities, but so far as Mr. Hume's experience goes, affects small precipices on the sides of wooded hills. It is like *sinense*, strictly nocturnal in its habits, and feeds on large insects.

I have not sufficient material to give an opinion either way; Mr. Sharpe too has not given his opinion, and has placed *S. indranee* as an inhabitant of the Peninsula of India, Ceylon and the Malayan Peninsula.

With Mr. A. O. Hume's large Museum at his elbows, it is hoped, the question will soon be worked out. In the meantime it would be well to keep Sykes' *Indranee* as a distinct species.

**117. *Syrnium indranee*, Sykes, P. Z. S. 1832, p. 82; Horsf. and Moore, Cat. B. M. E. I. Co. i. p. 83; Jerd. B. Ind. i. p. 121, No. 63; Holdsw., P. Z. S. 1872, p. 415; Hume, Str. F. 1873, p. 429; Legge, Str. F. 1874, p. 349; Sharpe, Cat. B. Br. M. p. 282. Bulaca indranee, (Kaup,) Hume, Rough Notes, ii. p. 347.—THE SOUTHERN WOOD-OWL.**

Above hair brown darkest on the head and neck; the greater coverts, scapulars, and tertiaries banded with white, the outer scapulars being almost white with brown bars; rump and upper-tail coverts also faintly barred with fulvous; quills brown, barred with pale fulvous on both webs, and, with narrow whitish bars and a white tip; disc black round the eye, with a pale whitish upper edge or supercilium, rufous externally; ruff brown with some white markings; beneath pale fulvous white, narrowly and closely barred with brown; quills and tail beneath dusky brown, with white bars; bill pale greenish; irides deep brown; claws horny reddish.

*Length*.—19 to 21 inches; wing 13 to 14; tail 8 to 9; tarsus 2·5; mid toe and claw 2·5; toes feathered three quarters of their length, with strong scuta beyond; wings reach nearly to the end of tail. The above is Dr. Jerdon's description. He gives the habitat as "throughout Southern India, in Ceylon and the Malayan Peninsula, not yet in Burmah. Refer to notes for distribution under *S. newarense*.

**Family—STRIGIDÆ.**

Hinder margin of sternum entire, with no distinct cleft; inner margin of middle claw serrated. Head large, densely feathered. Eyes surrounded with a circle of radiating feathers; between the anterior portion of the facial area a frontal patch of small stiff feathers always present. Bill short, covered by stiff bristles. Feet feathered to the toes.

Gen. *Strix*.—*Linn. (in pt.)*

Nasal fossæ large; nostrils lunate. Wings reaching far beyond the tail; tail short, slightly rounded; 2nd quill longest; tarsi scantily feathered.



118. *Strix flammea*, *Lin. S. N. i.* p. 133; *Tem. Man. d'Orn. i.* 91; *Gould, B. Eur. i.* pl. 36; *Murray, Vert., Zool., Sind*, p. 101. *Strix javanica*, *Gm. S. N. i.* p. 295; *Jerd. Mad. Journ. x.* p. 85; *id. Birds of Ind. i.* p. 117, No. 60; *Hume, Nests and Eggs, Indian Birds*; *Murray Hdbk., Zool., &c., Sind.*, p. 119. *Strix indica*, *Blyth, Ibis*, 1860, p. 25; *Hume, Rough Notes*, ii. p. 342; *id. Str. F.* 1873, p. 163 *et* 1875, p. 37.—THE INDIAN SCREECH OWL.

Head pale buff, mottled with light grey, each feather tipped with a white spot and edged darker. Neck silky white, sometimes tinged yellowish and with small brown spots; the ruff the same, with darker tips; chin, throat, and breast, and under parts white, the feathers of the breast and abdomen with small black specks. Scapulars and back pale buff, mottled with grey, each feather with a terminal dark-edged white spot. Primaries buff on the outer web and paler on the inner, edged with white and barred with brown, the outer

web finely speckled. Tail pale buff with 4—5 dark bars, tip whitish, and the inner web of the lateral feathers pure white. Under tail coverts and tarsal plumes white; under wing and thigh coverts white with small dark spots; facial disc pure white with a rufous spot in the corner of each eye. Bill yellowish white, irides black; cere flesh coloured.

*Length*.—13 to 14 inches; wing 11; tail 2·5; tarsus 2·5 to 2·75.

*Hab*.—Throughout Europe, India, Beloochistan, Afghanistan and Ceylon, extending through Burmah. Oates says it is abundant in Pegu and Arrakan, and Capt. Bingham records it from near Moulmein. In Burmah it is found chiefly in woods. It breeds in holes of trees or in the ground. Eggs 5 in number.

**119. *Strix candida*, Tick.** *J. A. S. B.* ii. p. 572; *Jerd. Ill. Ind. Orn.* pl. 30; *Jerd. B. Ind.* i. p. 118, No. 61; *Gould B. Asia*, pt. xxiv.; *Sharpe, Cat. B. M.* ii. p. 308; *Glaux candida*, *Blyth, J. A. S. B.* xix. p. 513; *Ball, Str. F.* 1874, p. 381; *Hume, Rough Notes*, ii. p. 345; *id. Nests and Eggs, Ind. B.* p. 60. *Strix candida*, *Hume, Str. F.* viii. p. 83; *Oates, Str. F.* x. p. 181.—THE GRASS-OWL.

The whole of the plumage, with median and greater wing coverts, dark glossy brown, the feathers yellow at the base, this colour being more or less mixed with the brown, according to the disarrangement of the plumage; each feather with a small spot of white near the tip; lesser wing coverts pale orange-buff spotted with brown; tail buffy white; the central feathers completely barred across with dark brown, the others successively less barred, the outermost feathers being nearly pure white; the quills in general orange-buff, barred with brown, and the tips also brown; the whole of the face and sides of the neck white; a patch of black in front of the eye; whole lower plumage pure white; the abdomen, under wing coverts, sides of the breast and body spotted with brown; irides very dark brown; bill horny; legs livid. (*Jerd.*)

*Length*.—14 to 14·5 inches; tail 5·2 to 5·5; wing 13·3; tarsus 3·1 to 3·2.

*Hab*.—India, Burmah, Upper Assam, and the Indo-Chinese sub-region; also the Phillipine Islands and N. Australia. Jerdon says he procured it on the Neilgherries at about 6,000 ft. elevation, also in the Carnatic and in Central India. According to Tickell (*Jerd.*), it is found throughout Bengal and the Upper Provinces. In Burmah Colonel Lloyd got it at Toonghoo. In Eastern Bengal it is common, and lays its eggs on the ground during November and December. In Dehra Dhoon a young bird was shot by Mr. R. Thompson during March and April. As its English name implies, it lives in long grass.

Gen. **Phodilus**.—*Isid. Geof. St. Hilaire*.

Facial disc irregular, the area above the eye being not equal to that below it. Wings rounded, reaching to nearly the tip of the tail; 1st quill equal to the 10th; tarsus feathered, inner toe longer than midtoe; outer toe reversible.

**120. *Phodilus badius*, Horsf. Tr. Lin. Soc. xiii. p. 139; id. Zool. Research., Java, pl. 37; Isid. G. St. Hilaire, An. Sc. xxi. p. 201; Jerd. B. Ind. i. p. 119, No. 62; Wall. Ibis. 1868, p. 26; Gray, Hand. l. B. i. p. 52; Gould B. Asia, pl. xxii.; Walden, Ibis, 1872, p. 365; Hume, Rough Notes, ii. p. 346; id. Str. F. 1873, p. 429; Hume and Dav. S. F. vi. p. 27; Hume, S. F. viii. p. 83; Oates, S. F. x. p. 181; id. B. Burmah, ii. p. 166; Sharpe, Cat. B. B. M. ii. p. 309.**—THE BAY SCREECH OWL.

Forehead and anterior half of the crown, delicate pinkish white; remainder of the crown and nape very deep chestnut; the whole upper plumage, wings, and tail lighter chestnut; quills banded black on the inner web; the first two or three on the outer web also; the first primary and first primary-covert as well as the winglet with their outer webs white and with broad transverse dark bars as on the quills; tail with more or less perfect bars on both webs; the feathers of the other parts each with a small black mark, and those of the greater wing coverts, scapulars and tertiaries with some white shaft spots; feathers round the eye deep chestnut; disc whitish, marked with chestnut; under surface fulvous pink, sparingly spotted with brown, except on the tarsi and under-tail coverts; bill fleshy white; toes pale livid; irides brown.

*Length*.—11 to 12 inches; wing 7·3 to 7·5; tail 3·3 to 3·5; tarsus 1·7 to 1·9. Females slightly larger.

*Hab.*—Nearly all India to the North, ranging through Burmah, Pegu, Java and Borneo, the Eastern Himalayas and Ceylon. Mr. Thompson records it from Dehra Dhoon, and Jerdon obtained specimens at Darjeeling and Khasia Hills. In Burmah Captain Fielden obtained it at Thayetmyo, and Captain Wardlaw-Ramsay at Toonghoo and on the Kharen Hills, east of Toonghoo.

Nothing is known of the habits of the Bay Screech-Owl, nor anything of its nidification. The natives assert that it approaches the tiger, with the same familiarity as *Pastor Falla*, Horsf., does the buffalo, and does not fear to alight on the tiger's back.



In beginning the second Order, *viz.*, the *Passeriformes*, or Perching Birds, I follow Mr. Bowdler Sharpe in the arrangement of the orders and sub-orders, as well as the various divisions and sections which this most extensive group cannot but contain. Mr. Sharpe explains that the system of classification for the higher groups of Passerine birds followed in his work is that of Professor A. H. Garrod, who, after an exhaustive consideration of many points in their anatomy, has established his classification on several characters after devoting his attention to the characters given by Professor Sundevall and Dr. Elliott Coues. For the lower groups he follows as far as possible the divisions of Professor Sundevall's "Tentamen" without adopting their exact order. All the great ornithologists have been consulted, and such authorities as Professor Garrod, Mr. Wallace, Professors Baird and Ridgeway have helped him in his great work, which cannot but be of the greatest assistance to students and working ornithologists. In regard to Genera, though following Sharpe, it will be necessary in this work to modify their characters to a certain extent.

## ORDER II.—PASSERIFORMES.

Perching birds, with a nude oil gland and colic cæca. *Cf. Garrod, P. Z. S.*, 1874, p. 119; (*Sharpe, Cat. Pass. B. B. Mus.*)

### SUB-ORDER I.—PASSERES.

Anomalogonotous birds with the second, third, and fourth toes directed forwards and the hallux backwards; the *flexor longus hallucis* muscle independent of the *flexor perforans digitorum*, the cæca coli short but at the same time of characteristic shape; oil gland nude; palate ægithognathous; *tensor palatii brevis*, specialized and quite peculiar. (*Garr.*)

### DIVISION I.—ACROMYODI.

Sub-Division I. Passeres Normales.

Section A.—*Turdiformes*. Typical or Thrush-like Passeres, with 10 primaries, the first more or less markedly reduced in size. (*Cf. Wallace.*)

### GROUP I.—COLIOMORPHÆ.

Bill stout, generally of large size, not deflected at all or very little so. Chin angle produced before the line of the nostrils; cutting edge of lower mandible simple; tongue thick and fleshy, the tip horny, slight, divided or split in various ways; feet in most, strong and large with the claw of the midtoe oblique. (*Cf. Sund. Av. Tent.*); *Sharpe, Cat. Pass. B. B. Mus.*

### Family.—CORVIDÆ.

Bill without a distinct sub-terminal notch in the upper mandible; hallux strong; its claw not as long as the midtoe and claw. Toes normal.



Many of the birds which constitute this family are nearly alike in their plumage and habits. It includes the Rook, the Raven, the Magpie, the Crows, the Jackdaw, the Chough, and others. Members of this family are found in almost every part of the known world. While some feed on earth-worms, insects as well as reptiles, others act the part of scavengers by feeding on putrid flesh and removing noxious matter. Though restless and noisy—the crows especially—they are active and sagacious, and have strong propensities for thieving. In general the family constitutes many which are readily tamed and taught to talk or articulate words. As for the *Corvus* genus, every one could testify to their voracious habits. They have been known to commit such havoc in some countries, that it became necessary to set a price on their heads. They are monogamous, and live in a kind of society. They moult only once a year.

Gen. **Trypanocorax**. *Bp.*

Wing never falling short of the tip, more than the tenth of tarsus; face and nostrils bare.

**121. Trypanocorax frugilegus**, *Linn. S. N.* i. p. 150; *Gould, Birds Eur.* iii. pl. 24; *McGillivray, Brit. B.* i. p. 535; *Farrel, Brit. B.* ii. p. 91; *Jerd. B. Ind.* ii. p. 302; *Hume, Ibis*, 1871, p. 404; *Shelley, B. Egypt*, p. 159; *Blanford, East. Persia*, p. 263; *Sund. Meth. Av. Tent.*—The Rook.

PLATE.

Whole plumage above black glossed with purple; richer on the head and neck, and with a greenish shade on the eyes and ear coverts; forehead, lores, base of the bill, nostrils and forepart of the cheeks, also the throat, bare, being covered with a scabrous skin. Under surface dull purplish black. First quill shorter than the second, which again is shorter than the fourth.

Females similar to the male. Bill and feet black; irides blackish brown.

*Length*.—16 to 18 inches; culmen 2·2; wing 12 to 12·2; tail 7·4 to 7·5; tarsus 2·1.

*Hab.*—The whole of Europe ranging into Persia, the Punjab, N.-W. Provinces, Afghanistan, and Cashmere.

The rook is so well known that its habits scarcely need description. It is well known to be gregarious. Cultivated districts are its chief haunts. Grain and insects especially form its chief food; and no doubt the farmers are fully repaid for so much of the seed that they lose, by its clearing their farms of wire-worms and cock-chafers (*Melolontha vulgaris*).

Rooks live together in large societies, and build on trees close to each other, and frequently in the midst of populous towns. They occupy the same nests from year to year. The nests are built of sticks and twigs, cemented

AVIFAUNA OF BRITISH INDIA.



TRYPANOCORAX FRUGILEGUS.



with clay mixed with tufts of grass. The eggs, 4—5 in number, are a pale green, blotched and spotted with darker and lighter patches of yellowish and greenish brown. As among the ravens and crows, pied varieties are not uncommon.

Gen. **CORVUS**.—*Lin.*

Bill straight, large, compressed, a little swollen laterally, convex and curved towards the point, its edges cutting. Nostrils in a more or less distinct groove covered by bristly plumes, the space between the tips of which and the eye is less than the uncovered portion of the bill.

**122. *Corvus corax***, *Linn. S. N.* i. p. 155; *Tem. Man. de Orn.* i. 107; *Farrell, Br. B.* i. p. 498; *Ferd., B. Ind.* ii. p. 293; *Str. F.* vi p. 63.—  
THE RAVEN OR GREAT CORBIE CROW.

PLATE.

Above glossy steel black, the feathers greyish at base; wings duller and with bronze reflections, their coverts and the secondary quills purplish at base, the secondaries purplish externally. Primaries steel black; tail purplish, the two outer tail feathers nearly steel black; head like the upper surface of body; face, and the long lanceolate hackles silky black, glossed with a purplish brown. Entire under surface of body glossy blue-black, shaded with purple; bill and legs black; irides brown.

*Length*.—22 to 25 inches; culmen 2·9 to 3·4; wings 16·5 to 16·6; tail 10 to 11·2; tarsus 2·5 to 2·8.

*Hab.*—The whole of Europe, Northern and Central Asia, North America, and Mexico, ranging into Cashmere, N.-W. Himalayas, Upper Sind, Punjab, and Afghanistan, as a migrant. Morris says its geographical distribution is soon told. He is a citizen of the world (*barring the greater part of India*). His sable plumage reflects the burning sun of the Equator and his shadow falls upon the regions of perpetual snow; he alights on the jutting peak of the most lofty mountain and haunts the centre of the most untrodden plain, \* \* \* “No ultima thule,” is a *terra incognita* to him. He is known since the day of Noah as a deserter, and there is scarcely a worse-abused scavenger in the present day. Although fulfilling its place in the economy of Nature, it is quite partial to poultry, lambs, rabbits, and the like.

Of its nidification, Morris says it commences about January. Incubation 20 days. Nest composed of the same materials as those used by the preceding species, and all crows. Eggs, 4—7 in number, of a bluish green colour, blotched with stains of darker or brown.

**123. *Corvus umbrinus***, (*Hedenb.*) *Sundev. Œfr. K. vet. Akad. Forh. Stockh.* 1838, p. 199; (*ex Hedenb. Ms.*); *Heugl. Orn. N. O. Afr.* pp. 505, 125; *Shelley, B. Egypt*, p. 158; *Dresser, B. Eur.* pl. xxxiv., xxxviii.; *Blf.*

- East, Pers.*; *Murray, Str. F.* vol. vii. p. 113; *Hume, Str. F.* vii. p. 120;  
 • *Murray, Hdbk., Zool., &c., Sind*, p. 173. *Corvus infumatus*, *Wagn. Munch. gel. Anz.* 1839. *Corvus corax*, *Horsf. and Moore, Cat. B. Mus. E. I. Co.* ii p. 552; *Murray, Verl. Zool., Sind*, p. 175.—THE AFGHAN BROWN-NECKED RAVEN.

Head and neck glossy umber brown, also the ear coverts, sides of the face and sides of the neck, the latter scarcely glossed; lores, incumbent nasal bristles, feathers round the eye, at base of bill and at the gape, black; back, scapulars, wings, wing-coverts, upper tail-coverts and tail glossy black with a violet blue gloss; chin, throat and breast dark glossy umber brown; rest of under surface brown, glossed with purple on the breast, flanks, abdomen and vent; under tail coverts glossy purplish black; axillaries and under wing coverts purplish black; bill and legs black; irides dark brown.

*Length*.—21·5 to 23 inches; wing 15 to 16·4; tail 8·6 to 9; tarsus 2·9; bill at front 2·9 to 3.

*Hab.*—This fine Raven occurs during winter in the northern parts of Sind, where it is not uncommon at Larkhana and Jacobabad from December to March. It has hitherto been known from N. E. Africa, Palestine, and Beloochistan, about as far as 62° East long. Its occurrence at Jacobabad extends its range to nearly 69° East long. Occurs also in Beloochistan, S. Afghanistan, Punjab (Ferozepore), Egypt, Mesopotamia, and Cashmere (Gilgit).

**124. *Corvus lawrencei***, *Hume, Lahore to Yarkand*, p. 235; *id. Str. F.* vol. i. p. 205; *Adam, t. c.* p. 385; *Hume, Nests and Eggs, Ind. B.* p. 408; *Stol. S. F.* 1864, p. 474; *Ball. S. F.* 1875, p. 207; *Murray, Hdbk. Zool., &c., Sind*, p. 172; *Sharpe, Cat. B. Br. Mus.* vol. iii. p. 15.—THE INDIAN RAVEN.

Uniform blue-black throughout, with a purplish tinge on the throat and upper breast; feathers of the chin and throat lanceolate; bill black; incumbent bristles in front extend to beyond more than half of the length of the bill, which is much arched; irides dark brown or grey brown; legs black.

*Length*.—23·75 to 24·75 inches; wings 16·3 to 17·4, when closed reach to about from 0·3 to 0·5 of the end of the tail; bill at front 2·8.

*Hab.*—Sind, Punjab, N.-W. Provinces, Kutch, Kattiawar, Rajputana, Beloochistan and Afghanistan; found in some numbers in Upper Sind and usually in flocks of from 30 to 50 at the beginning of winter, when a great number are to be seen dead under the trees about Jacobabad and Shikarpoor.

**Gen. *Coloeus*.—Lin.**

Tarsus longer than culmen, which is more or less shorter than the head; face feathered; nostrils covered by bristles.





COLLUS MONEDULA







**CORONET CORNIX**

**125. *Colæus monedula*, Linn. S. N. i. p. 156; *Jerd. B. Ind.* ii. p. 302; *Hume, Nests and Eggs, Ind. B.* p. 414; *Scully, Str. F.* 1876, p. 258; *Blanf. East Pers.* p. 263.—The JACKDAW.**

## PLATE.

Crown of the head, blue-black, forming a cap; back of neck and nape fine hoary bluish grey; rest of the plumage black; the primaries and innermost secondaries glossed green, also the tail on the edges of the feathers; underwing and tail-coverts greenish black; first quill shorter than the second, which again is shorter than the third, the third and fourth sub-equal; bill, legs and feet black.

*Length*.—13 inches; bill 1·35; wing 9·5; tail 6·1; tarsus 1·7.

*Hab*.—Europe and Africa, ranging into Persia, Afghanistan and the Punjab. The Jackdaw is an active and sprightly bird, and like most of the family to which it belongs noted for thievery. It is readily tamed, and soon learns mimicry. Jackdaws are social birds, and live, like the Rook, in large communities. They feed on insects, shellfish, putrid matter, and almost any garbage. They are not particular as to the site they build on,—cliffs, roofs of buildings, hollow trees, and even chimneys quite suit them. The nest though built of sticks is lined with wool, hair, or other soft material. They lay 4—5 eggs of a pale bluish white colour, spotted with grey and brown. The young are hatched by the end of May. Nothing is known of the nidification of the Jackdaw in India.

Gen. **Corone**.—*Kaup*.

Differs from *Corvus* by the first primary being longer than the foremost secondaries, but not longer than the inner. Nasal bristles directed horizontally over the nostrils; tarsi stout, scutate.

**126. *Corone cornix*, Linn. S. N. i. p. 156; *MacGill. Brit. B.* i. p. 529; *Jerd., B. Ind.* ii. p. 298; *Scully, Str. F.* 1876, p. 156; *Blanf., E. Persia*, p. 262; *Str. F.* vii. p. 406, 517; *Sharpe, Cat. B. Br. Mus.*, vol. iii. p. 31. *Corone cornix*, *Kaup. Nat. Syst.* p. 99. *Corone capellana*, *Sclater, P. Z. S.* 1876; *Sharpe, Cat. B. Br. Mus.* vol. iii. p. 32. THE HOODED CROW.**

*Adult*.—Head, foreneck, and breast glossy blue-black; wings and tail the same, but with purplish and steel green reflections; wing coverts blue-black; axillaries greyish; upper tail coverts purplish brown, the edges grey; thighs dusky black; rest of the plumage drab-grey; bill and legs black; irides dark brown.

*Length*.—17 to 18 inches; wing 12·2 to 12·5; tail 7·5 to 7·8; culmen 2·35 to 2·4; tarsus 2·2 to 2·25.

*Hab*.—Great Britain, Central and Southern Europe, Beloochistan, Afghanistan, Persia, and the Punjab.

In Mesopotamia (Fao), this species appears to be the lighter drab, or nearly white form, which, according to Sharpe, is *Corone capellana*, Sclater, but, examining a series the lighter or whitish colour is not so apparent as to separate it as a distinct species. According to Sharpe, it has also been found in the Deccan; this must surely be an error, or the bird is very rare.

Wherever the Hooded Crow occurs, it always keeps about towns and villages. Its habits are those of *C. splendens*. In India (e.g.), Punjab, it is a migrant, while in Persia it remains throughout the year. In Beloochistan it is fairly common above the Bolan Pass, but during the autumn only.

**127. *Corone splendens*, Vieill. N. Dict. d'Hist. Nat. viii. p. 44; Tem. Pl. Col. ii. pl. 425; Gray, Gen. B. ii. p. 315; Jerd. B. Ind. ii. p. 298; Hume, Str. F. vol. viii.; Murray, Hdbk. Zool., &c., Sind, p. 173. Corvus impudicus, Gray, Handlist B. ii. p. 14; Hume, Str. F. i. p. 206; Str. F. ii. pp. 418, 493; Murray, Vert. Zool. Sind, p. 176; Oates B. Burma, p. 398. Corone insolens, Hume, Str. F. 1875, p. 144; Sharpe, Cat. B. Br. Mus. vol. iii. p. 34; Oates B. Burma. vol. i. p. 399.—THE COMMON INDIAN CROW.**

Nasal bristles, crown of head, lores, sides of face, chin, throat, back, wings and tail glossy black with purplish, or steel blue reflections; lower abdomen flanks, vent, under tail and thigh coverts dull black; nape, hind neck, sides, of the neck, and part of the upper back a greyish drab; breast and upper part of the abdomen dark ash; under wing coverts and axillaries dull black; bill and legs black; irides deep brown.

*Length*.—16 to 17 inches; wing 11 to 11'25; tail 7; bill at front 1'12.

*Hab*.—Throughout India to the foot of the Himalayas and Ceylon, Assam, B. Burmah, Tennaserim and Malacca.

The Indian House Crow like its congeners, is extremely social, and lives about towns feeding on almost anything and everything; dead mice, rats, putrid flesh, fruit, &c., in fact, is a general scavenger. Breeds from the middle of March to the beginning of June, laying generally four eggs of a greenish colour, marked with various shades of brown. The nest is made of twigs, lined with grass, hair, rags, or any other soft material.

I do not separate *splendens* and *insolens*. From an examination of a large series of *insolens* sent to me by Mr. Calthrop from Tonghoo, Karenne, and other parts of Burmah and Tennaserim, I have come to the conclusion that it cannot be specifically separated from *splendens*. If shades of colour, especially of grey and brown are to constitute species, Ornithology will soon reach a state of confusion, from which it will never be extricated. Races and sub-species, sound well, but both help to make what never should be.

**128. *Corone corone*, Linn. S. N. i. p. 155; MacGill, Br. B. i. p. 516; Jerd., B. Ind. ii. p. 295; Hume, Nests and Eggs Ind. B. p. 410; Scully, Str. F. 1876, p. 156; Sharpe, Cat. B. Br. Mus. iii. p. 36.—THE CARRION CROW.**



CORONE CORONE



Whole plumage above and below glossy blue or steel black, glossed with green; the throat with purplish; tail purplish black.

*Length*.—19 to 19·5 inches; wings 12·16 to 13·3; tail 7·8 to 8; *culmen* 2·15 to 2·25; *tarsus* 2·5.

*Hab*.—Throughout Europe; ranging into the Punjab and the N.-W. Provinces. It has as yet only been found in the Punjab, and on the borders of the N.-W. Provinces.

The Carrion Crow, as its name implies, feeds on all sorts of animal food, alive and dead. Young pigeons, chickens, sparrows, crustacea, shellfish, fruit, vegetables, frogs, mice, and insects, it is very partial to, as well as garbage. House refuse of every kind does not come amiss to it. It is a predaceous bird, and a relentless destroyer of everything it can devour. Its sense of perception, too, is very acute. Nidificates on rocks or on trees, during March. Nest of twigs, cemented with clay, and unsparingly lined with rags, grass, hair, wool, or any other soft material within its reach. Eggs 4—6 in number, greenish spotted, and streaked with various shades of brown.

**129. *Corone macrorhynchus*, Wagl. Syst. Av. *Corvus*, sp. 3; Hume, S. F. v. p. 461; Legge, *Birds, Ceylon*, p. 346; Hume, S. F. viii. p. 105. *Corvus Levaillantii*, *Les traite*, p. 328; Hume, *Nests and Eggs*, p. 411; *id.* S. F. ii. p. 295; *Anderson, Yunnan Exped.* p. 589. *Corvus culminatus* (*Sykes*), *Jerd. B. Ind.* ii. p. 295. *Corvus Vaillantii* (*Less*), *Bl. B. Burm.* p. 86; *Oates, S. F.* v. p. 159. *Corone macrorhynchus*, *Sharpe, Cat. B. Br. Mus.* iii. p. 38; *id. Cat. B. Br. Mus.* iii. p. 39; *Oates B. Br. Burmah*, i. p. 397.—THE INDIAN JUNGLE CROW.**

Whole upper plumage deep black glossed with purple, blue and green; bill, legs, and feet black; irides dark brown.

*Length*.—19 to 21 inches; tail 7·6 to 9·2; wing 12·2 to 14; *tarsus* 2·3; bill from gape 2·3.

*Hab*.—The whole Continent of India, Ceylon, Andaman Islands, the Indo-Burmese countries and China, extending to Eastern Siberia. Southerly it extends down the Malayan Peninsula to Sumatra, Java, Borneo and Timor. In India it is found in Sind, Punjab, N.-W. Provinces, Oudh, Rajputana, Central India, the Central Provinces, Concan, Deccan and South India, also in British Burmah and Nepal.

It will be seen that *Levaillantii* has been made a synonym of *macrorhynchus*. Sharpe makes the former a Sub.-Sp., but it must not stand thus. Hume has worked out the Crows to some purpose, and like him, I am of opinion, that these two cannot be specifically separated. Except from Kutch and Guzerat, I have had specimens of this species from all parts of India for examination, and not less than 13 from various parts of Burmah and Tennaserim, and though in a few the pale bases to the feathers are apparent, in others it is either absent, (though from one locality) or distributed here and there over different parts of the body. This may be a sign of nonage.

The Jungle Crow does not affect forests only, but it also frequents towns and villages, associated with the House Crow. Nesting and breeding season the same; also the eggs, though slightly larger.

Gen. **Nucifraga**.—*Briss.*

Outer secondaries longer than the inner; bill conical, nearly straight; tip blunt; base of bill with short incumbent feathers, under which the nostrils are hidden.

**130. *Nucifraga hemispila*, Vigors, P. Z. S. 1830, p. 8; Gould. Cent. Him. B. pl. 36; Hodgs. in Gray's Zool. Misc. p. 84; Gray, Cat. B. Nepal; Jerd. B. Ind. ii. p. 304; Hume, Nests and Eggs, Ind. B. ii. p. 415; Sharpe, Cat. B. Br. Mus. iii. p. 54.**—The NUTCRACKER.

Crown of the head black; bristles over the nostrils blackish, streaked with white; lores white; sides of face and neck blackish brown, streaked with white; throat and under surface of body chocolate brown; the chin streaked with white; the breast tipped with triangular spots of white, the abdomen uniform brown. Under tail coverts white. Back and scapulars brown, streaked on the mantle with white; lower back, rump and upper tail coverts brown, the latter glossed with greenish; wings glossy greenish black; under wing coverts dark brown, the outermost tipped with white; tail greenish black, all the feathers except the two central ones with a broad white tip increasing in width till the outermost is white for the terminal half. Bill and feet horny black; irides reddish brown.

*Length*.—16 inches; wing 8·4; tail 6·6; tarsus 1·75; culmen 1·8 (*Sharpe*).

*Hab.*—The Himalaya Mountains. Recorded from Bengal (Darjeeling), Sikkim, N.-W. Himalayas and Nepal.

The Himalayan Nutcracker like its congeners lives on fruit, seeds, berries and insects generally. Nuts and other hard seeds it fixes in the crevice of a tree, and pecks at it till the shell is broken. It nests in holes of trees, and lays from 5 to 6 eggs, of a yellowish grey colour, spotted with lighter or darker shades of brown.

Gen. **Pica**.—*Briss.*

Wings short; tail long, graduated, the centre feathers longest. Head not crested. Eye without a nude space. 1st primary sinuated and ending in a long point. Bill as in *Corvus*, but more slender.

**131. *Pica rustica*, Scop. Ann. i. p. 38; Dresser Birds Eur. part xxii.; id. Ibis, 1875, p. 238; Blanf. Zool. E. Persia, p. 264. *Corvus pica*, Lin. S. N. i. p. 157; Wilson Am. Orn. iv. p. 75, pl. xxxv. fig. 2. *Pica caudata*, Keys. w. Blas. Wink. Eur. p. 45; Gould, Birds Eur. iii. pl. 216. *Pica bottanensis*, Deless, Rev. Zool. ii. p. 100; Jerd. B. Ind. ii. p. 305, No. 668. *Pica pica*, Sharpe, Cat. B. Brit. Mus. vol. iii. p. 62.**—The MAGPIE.



PICA RUSTICA.





PLATE.

Head, crown, neck and nape glossy purplish black, with a shade of shining deep green on the crown; chin and throat black, the shafts of some of the feathers greyish white; breast above black; below white; back black with shining deep green reflections; wings blue, the outer edge, primary coverts and external web of primaries green; shoulders white; primaries black with an elongated patch of white on the inner web of each of the first ten feathers; secondaries and tertiaries fine blue. Tail of bright iridescent blue and purple shades terminally, green at the base and tipped dusky; the inner webs of all except the centre pair purplish black; rump and upper tail coverts purplish black. Under surface of body pure white; lower abdomen and under tail coverts purplish black, also the thighs and under wing coverts.

Bill and legs black; irides brown.

*Length*.—16 to 16·5 inches; wing 7·6 to 8·2; tail 9·7 to 10·5; tarsus 1·9 to 2; culmen 1·4 to 1·5.

*Hab.*—Europe, Asia, Africa, and America. Found in Spain, France, Italy, Belgium, Sweden, Asia Minor and Siberia; also in India, China, Japan and the United States. It is common also in Upper Beloochistan, along the Bolan Pass; on the Khojuk, or Amran range of mountains; throughout Afghanistan, and the highlands of Persia, in British Burma, at Bhamo and on the Khakyeen Hills and in Nepal.

Of the Magpie much need not be said. Even the schoolboy has it for his lesson. It is a sly and wary bird, as well as crafty; while being always on the alert, its chatter and noise at the sight of almost any creature warn other birds. The wing being short and rounded it has to fly with quick flappings of its wings. Its food is chiefly insects, fruit and seeds. Nidification begins in spring. The nest not unlike that of the crow is made of strong sticks and twigs, cemented with mud and lined with grass, fibres, &c., and domed on top, leaving an aperture on one side for entrance and exit. Eggs 6—8, pale bluish white, spotted all over with grey and greenish brown.

Gen. **Urocissa**.—*Cab.*

Wings short and rounded; tail with the two centre feathers longer than the others, but not spathulate at tip. Head not crested. Eye without a nude space. Bill stout, much curved. Nostrils not densely feathered.

**132. *Urocissa occipitalis***, *Blyth*, *J. A. S. B.* xv. p. 26; *Jerd. B. Ind.* ii. p. 309; *Hume, Nest and Eggs*, p. 419; *Sharpe, Cat. B. Br. Mus.* iii. p. 70; *Hume, Str. F.* viii. p. 105; *Scully, Str. F.* viii. p. 327; *Bingham, Str. F.* ix. p. 191; *Oates B. Br. Burmah* i. p. 400. *Psilorhinus magnirostris* *Bl. J. A. S. B.* xv. p. 27; *Urocissa magnirostris*, *Bl. B. Burma*, p. 88;

*Hume, Str. F.* iii. p. 144; *Sharpe, Cat. B. Br. Mus.* iii. p. 71; *Wardlaw-Ramsay, Ibis*, 1877, p. 460; *Hume, and Davison, Str. F.* vi. p. 385; *Anders. Yunan Exped.* p. 592; *Hume, Str. F.* viii. p. 105. *Urocissa sinensis* (*Lin.*), *Ferd. B. Ind.* ii. p. 30.—The BLUE MAGPIE.

Above pale purplish brown. Head, throat and foreneck, also the breast black; a large patch of white on the nape continued down the back of the neck; some of the feathers of the crown tipped with white; rest of under surface of the body, also the under wing and tail coverts silky white, in some with a purplish tinge; wings brown, the first two primaries edged with blue, the next five edged with blue above the emargination and with bluish white below and tipped with white, the other primaries and secondaries almost entirely blue on the outer web, the tertiaries blue on both webs; back, scapulars and rump azure blue; the wing coverts brighter. Upper tail coverts azure blue, tipped with black and with a subterminal band of bluish white; flanks and thighs light bluish grey.

Bill coral red; legs reddish crimson or orange; irides brown.

Eyelids greyish white; claws horn colour.

*Length*.—20 to 24 inches; wing 7·5 to 8; tarsus 1·9 to 1·95; tail 17 to 18; culmen 1·6.

*Hab.*—The Himalayas, extending to Nepaul, Burmah and Siam. Oates obtained it in Thayetmyo, Captain Ramsay at Tonghoo, Davison at Pahpoon, Capt. Bingham in the Thoungyeen valley. It has also been found in Arrakan, Sikkim, Nepaul, Kumaon and in the Valley of the Sutlej.

The Blue Magpie is said to be easily tamed, and to bear confinement well as a cage-bird. Although a forest bird it affects camps and villages. It feeds chiefly on the ground. It breeds during March and April, making a nest constructed of twigs and branches and lined with grass and slender twigs on the topmost branches of trees. Eggs 3—4, white, with streaks and spots of a claret colour. (Oates.)

*U. magnirostris* has been made a synonym of *Occipitalis*, as there does not appear to be any marked difference, either in size, or colour. Taking the bill alone, of the several examples of both species sent to me by Mr. A. O. Hume the difference is scarcely a tenth, while most have it of the same length as *occipitalis*. The colour of the irides, too, as given by several ornithologists, also of the legs, cannot be accepted as distinctive characters, being variable in most birds at certain seasons.

**133. *Urocissa flavirostris*, Blyth. *J. A. S. B.* v. p. 28; *Cat. Mus. Hein. Th.* i. p. 87; *Ferd. B. Ind.* ii. p. 310; *Hume, Nests and Eggs, Ind. B.* p. 419; *Henderson and Hume, Lahore to Yarkand*, p. 242. *Cissa cucullata*, *Gould. B. Asia*, part xiii.—The YELLOW-BILLED BLUE-MAGPIE.**

Head, neck, and mantle deep black; a nuchal patch of white glossed with light blue; under surface ashy grey, paler on the abdomen and under tail





**DENDROGITA OOOIPITALIS.**

coverts; under wing coverts yellowish. Edge of the wing and upper wing coverts washed with lavender. Upper surface lavender, tinged with azure blue; wings the same; primaries externally greyish for their apical two-thirds, the secondaries tipped with white; upper tail coverts azure blue with a narrow subterminal bar of bluish white and tipped with black; tail azure blue, broadly tipped with white; all but the two centre feathers subterminally barred with black. Legs orange yellow; bill yellow; irides brownish red.

*Length*.—20 inches; wing 7·3; tail 16; tarsus 1·9; culmen 1·45.

*Hab*.—The Himalaya Mountains, Nepal, Sikkim, Darjeeling, Kumaon, Kooloo, Ladakh, and Cashmere. (Sharpe.)

### Gen. **Dendrocitta**.—Gould.

Base of the culmen unfeathered; middle tail feathers broad at the ends; nostrils concealed by incumbent feathers; 5th and 6th quills longest; secondaries nearly as long as the primaries.

**134. *Dendrocitta rufa***, *Scop. Del. Fauna et Flor. Insubr.* ii. p. 86; *Hartl. Syst. Verz.* p. 63; *Jerd. B. Ind.* ii. 314, No. 674; *Murray, Vert. Zool. Sind*, p. 177; *Sharpe, Cat. B. Br. Mus.* iii. p. 76; *Gray, Handlist B. Br. Mus.* ii. p. 8; *Hume, Str. F.* i. pp. 206, 386; *Murray, Hdbk. Zool., &c., Sind*, p. 174. *Crypsirrhina pallida*, *Blyth, J. A. S. B.* xv. p. 30. *Dendrocitta pallida*, *Blyth, Cat. Mus. A. S. B.* p. 336; *Jerd. B. Ind.* ii. p. 315, No. 675.—**THE COMMON INDIAN MAGPIE.**

*Adult*.—Head, neck all round, part of upper back, chin, throat, breast and ear coverts dark sooty brown, paler on the upper back; lores blackish brown; back and scapulars orange brown; rump and upper tail coverts bright orange or yellowish buff; abdomen and under tail and thigh coverts, like the rump, orange, yellowish buff or dark ferruginous; primaries and secondaries black; tertiaries black, greyish white on their outer webs; wing coverts white; edge of the wing and under wing coverts greyish white; tail greyish white, or grey, the centre feathers elongated much beyond the rest, and all broadly tipped with black; bill black; legs slaty; irides blood-red.

*Length*.—16—17 inches; wing 5·9; tail 10; tarsus 1·45; bill at front 1 to 1·25. The young is much paler throughout, and has the tail feathers tipped whitish buff.

*Hab*.—The whole of India, through Assam and Burmah to Tennaserim and Cashmere; Sind, Punjab, N.-W. Provinces, Bengal, Southern India, Travancore, Central India, Kutch, Kattiawar, Rajputana, Concan, and Deccan.

The common Indian Magpie is an inhabitant of forests as well as of open country, and is usually found in small flocks of 5 or 6. It nests on trees, selecting the highest, and generally in the vicinity of water, for what reason it is

difficult to say. The nest is constructed of twigs, usually of thorny trees, and lined with grass, fibres, or other such soft materials. It breeds from April to June. The eggs, generally four and sometimes five in number, vary much in colour, size, and markings; typical eggs may be said to be of a dirty greenish white colour, richly blotched with reddish brown, purplish, or umber brown. In size they also vary from 1·15 to 1·18  $\times$  0·85 to 0·87.

**135. *Dendrocitta frontalis*, McClell., P. Z. S. 1839, p. 163; *Jerd. B. Ind.* ii. p. 317, No. 677; *Sharpe, Cat. B. Br. Mus.* iii. p. 780. *Crypsirrhina frontalis*, *Blyth, J. A. S. B.* xii. p. 933; xv. p. 30. *Crypsirrhina altirostris*, *Blyth, J. A. S. B.* xii. p. 932.—The BLACK-BROWED MAGPIE.**

Hinder part of head, entire hind neck, mantle, sides of the neck, foreneck, and breast whitish grey; rest of head, sides of the face, entire throat, bastard wing, primary coverts, quills, tail, bill and feet black; upper surface orange chestnut; lower surface of body bright orange chestnut, deeper on the lower tail coverts; thighs and under wing coverts grey, washed with orange; upper wing coverts blue grey; iris brownish red.

*Length*.—14 inches; wing 5·15; tail 9·3; tarsus 1·2; culmen 1·05.

*Hab*.—The Himalayas. Recorded from Nepaul and Darjeeling; also Sikkim and Assam.

Nothing is known of its habits and nidification.

**136. *Dendrocitta leucogastra*, Gould. P. Z. S. 1833, p. 57, et. *Tr. Zool. Soc.* i. p. 89, pl. 12; *Jerd. B. Ind.* ii. p. 317, No. 678; *Hume, Nests and Eggs, Ind. B.* p. 424, No. 678; *Sharpe, Cat. B. Br. Mus.* iii. p. 79; *Str. F.* iv. p. 402.—The WHITE BELLIED MAGPIE.**

Crown of the head, sides of face, cheeks, throat, foreneck, tail, terminal third of the two long central feathers, wings (except a white star patch at base of primaries), thighs, under wing coverts and bill black; back and scapulars orange brown; hind crown, hind neck, rump, upper tail coverts, under surface of the body (except the under tail coverts, which are rufous), a band across the inner lining of the quills white; basal two-thirds of the long central tail feathers grey; bill black; legs and feet dark plumbeous; irides blood-red.

*Length*.—17 to 18 inches; wing 5·5 to 5·8; tail 11 to 11·5; tarsus 1·25; culmen 1·3.

*Hab*.—Southern India, Malabar Coast and the Neilgherries; also Peria Forests, Wynaad, where it is said to be abundant. Jerdon gives Coorg and Travancore, also, as countries where it is found.

**137. *Dendrocitta himalayensis*, Blyth. *Ibis*, 1865, p. 45; *Hume Str. F.* 1874, p. 480; *id. Nests and Eggs, Ind. B.* p. 423; *Blyth B. Bur.* p. 88; *Sharpe, Cat. B. Br. Mus.* iii. p. 79; *Wardlaw-Ramsay, Ibis*, 1877, p. 459; *Hume and Davison, Str. F.* vi. p. 386; *Hume, Str. F.* vii. p. 106;**





AVIFAUNA OF BRITISH INDIA.



*Scully, Str. F.* viii. p. 329. *Dendrocitta sinensis*, (*Lath.*) *Jerd. B. Ind.* ii. p. 316. *Dendrocitta assimilis*, *Hume, Str. F.* v. p. 117; *Hume and Davison, Str. F.* vi. p. 386; *Hume, Str. F.* vii. p. 519; viii. p. 106; *Reid, Cat. Birds Provincial Mus.* i. p. 123.—THE HIMALAYAN TREE MAGPIE.

Forehead, lores and feathers above the eye black, also the wings and their coverts; also all the primaries except the first two, with a white spot at the base; the terminal third of the two central and other tail feathers black, the basal two-thirds of the former and bases of the latter ashy, or greyish white. Sides of the head, chin, and throat dark sooty brown, paling on the sides of the neck and breast; nape and upper back, rump and upper tail coverts ashy; rest of back and the scapulars brownish buff, abdomen and flanks cinereous; thighs blackish; vent and under tail coverts chestnut or orange; under wing coverts glossy black; bill horny grey, blackish in some; irides reddish brown; legs dusky black.

*Length.*—11 to 13 inches; wing 5·4 to 5·5; tail 8·7 to 8·9; tarsus 1·1 to 1·15; culmen 1·3.

*Hab.*—The Himalayas. Has been found in Nepaul, Purneah, Darjeeling, Kumaon, and the mountains of Arrakan. According to Capt. Ramsay it occurs on the Tounghoo Hills and in Karenne. Davison procured it on the Mooleyit mountains in Tennaserim. It occurs also in Assam, Cachar, in the hills of Eastern Bengal, N.-W. P., Oudh, and the hills of Southern India. Jerdon says, "Horsfield got a specimen from Madras; that on the Himalayas it is very abundant from 4,000 to 7,000 feet, and that it is found in the more open forests and near cultivation and villages." Like its congeners it is a noisy bird, and has a variety of notes similar in character to those of *D. rufa*. Feeds on insects and fruit. It breeds from March to June, making a nest of sticks and roots, partially cemented with clay and lined with fibrous grass. Capt. Wardlaw-Ramsay found a nest on the Karin Hills which contained two eggs: Jerdon says he had nests of the Himalayan Magpie brought to him at Darjeeling, and that the number of eggs are three or four, of a pale greyish fawn colour with a few pale reddish brown spots and blotches, sometimes very indistinct. Hutton also took the eggs at Mussoorie. He describes them as "dull greenish ash with brown blotches and spots somewhat thickly clustered at the larger end." The eggs no doubt, like those of the Corvinæ family, vary much both in colour and markings, as well as in size and shape.

**138. *Dendrocitta Bayleyi*, Tytler, J. A. S. B. 1863, p. 88; Beavan, Ibis, 1867, p. 329; Ball, Str. F. 1873, p. 75; Hume, Str. F. 1874, p. 245; Walden, Ibis, 1874, p. 145, pl. vi.; Sharpe, Cat. B. Br. Mus. iii. p. 82.—BAYLEY'S BLUE TREE MAGPIE.**

#### PLATE.

*Adult Male.*—Back and scapulars dull tawny brown, becoming slightly more orange on the rump; head black shading off into leaden grey on the

hind neck and on the upper breast, the rest of the under surface bright orange chestnut ; thighs blackish ; under wing coverts blackish, the inner ones shaded with grey ; wings above black, the lesser and median coverts slightly shaded with leaden grey ; a very distinct alar speculum, caused by the outer webs of all the secondaries, except the innermost, being white at the base ; upper tail coverts leaden black ; tail entirely black, with a slight leaden grey shade near the base. (Sharpe.)

Bill, legs, and feet black ; iris bright yellow, sometimes golden yellow. (Hume.)

*Length*.—12·5 inches ; wing 4·55 ; tail 7·7 ; tarsus 1 ; culmen 1.

The adult female differs from the male in being slightly duller coloured. The young are coloured like the adults, but not so bright ; the head and throat browner, the chest reddish brown instead of grey.

*Hab*.—Andaman Islands (Port Blair South Andamans), British Burmah and Nepal.

Of its habits and nidification nothing is known.

#### Gen. **Crypsirhina**—*Vieill.*

Tail long, the two central feathers exceeding the rest ; head not ornamented with a distinct crest ; eye without a nude ring ; nostrils densely feathered, forming a crest of velvety feathers covering the base of the culmen.

**139. *Crypsirhina varians***, *Lath. Ind. Orn. Suppl.* p. xxvi. ; *Walden, P. Z. S.*, 1866, p. 552 ; *Bly. B. Bur.* p. 88 ; *Hume, Str. F.* iii. p. 146 ; *Sharpe, Cat. B. Br. Mus.* iii. p. 83 ; *Wardlaw-Ramsay, Ibis*, 1877, p. 459 ; *Oates, Str. F.* v. p. 159 ; *Hume and Dav. Str. F.* vi. p. 386 ; *Hume, Str. F.* viii. p. 106.—The BLACK RACKET-TAILED MAGPIE.

The whole plumage metallic bronze green, tinged with bluish on the head ; the forehead, lores, a circlet of feathers round the eye and a spot at the base of the lower mandible velvety black. Wings brown, the outer webs of the primaries greenish, the other quills more or less entirely suffused with green ; tail black, overspread with a metallic green lustre. Bill and feet black ; irides bright blue.

*Length*.—13 inches ; wing 4·6 to 4·7 ; tail 7·8 to 8 ; tarsus 1·1 ; culmen 1.

*Hab*.—Java, Burmese countries from Tennaserim northwards and eastwards also to Cochin. Found in Lower Pegu, whence it extends to Bassein. Davison procured it in Mergui. Malacca and the Province of Wellesley are other countries where it has been met with. According to Blyth it occurs in Lower Siam, and also in Cochin-China.

The Racket-tailed Magpie affects secondary jungles. It is said to be common in gardens, and wherever found has always been noticed in pairs. Breeds from May to July. Nest cup-shaped, generally made on a bamboo branch. Eggs 2—3, whitish, marked with brownish.

**140. *Crypsirhina cucullata*, *Jerd. Ibis*, 1862, p. 20; *Hume, Str. F.* iii. p. 147; *Bly. B. Burma*, p. 88; *Sharpe, Cat. B. Br. Mus.* iii. p. 84; *Wardlaw-Ramsay, Ibis*, 1887, p. 459; *Hume, Str. F.* viii. p. 106.—The HOODED RACKET-TAILED MAGPIE.**

Head, chin, throat, primaries and their coverts black; neck with a collar of ashy white. Upper plumage, wing coverts and tertiaries vinaceous grey; under surface the same, but more rufous; central tail feathers black, the others like the back paling to whitish at the tips; secondaries black, edged with ashy white; under wing coverts and inner bases of the quills whitish; irides blue; eyelids plumbeous; bill black; legs dark brown.

*Length*.—10·5 to 12·5 inches; wing 4 to 4·1; tail 6·8 to 7·8; tarsus 0·95.

The young differs from the adult in having the hood dusky ashy instead of black; lores, ear coverts and chin blackish brown and the top of the head darker brown; no white ring round the neck, the grey of the plumage duller and dingier, and the quills and central tail feathers altogether duller coloured (*Hume*), basal portion of bill, edges of the eyelids and inside of the mouth orange. (*Oates*).

*Hab*.—Burmah and Upper Pegu. Has been noted from Thayetmyo, Palow and Tounghoo. Affects bamboo brakes chiefly. Nothing is known of its nidification.

#### Gen. *Cissa*.—*Boie*.

Eye surrounded by a fleshy ring. Head crested.

**141. *Cissa chinensis*, *Bodd, Tab. Pl. Enl.* p. 38; *Sharpe, Cat. B. Br. Mus.* iii. p. 85; *Hume, Str. F.*, viii. p. 106. *Corvus speciosus*, *Shaw, Gen. Zool.* vii. p. 364. *Cissa sinensis* (*Briss*), *Jerd. B. Ind.* ii. p. 312; *Bly. B. Burma*, p. 89; *Cissa speciosa*, *Hume, Nests and Eggs*, p. 421; *id. Str. F.* iii. p. 145; iv. p. 509; *Bingham, Str. F.* v. p. 85.—The GREEN JAY.**

General colour green (in life), pale blue (in skin). Head crested; lores feathers round the eye, extending in a band round the nape and forming a nuchal collar black; cheeks, sides of neck and under surface of the body light green or blue; wings reddish brown; the least wing coverts green like the scapulars; all the quills dull brown on the inner web, the innermost secondaries broadly tipped with bluish white, before which is a subterminal bar of black; tail pale blue or green, the two middle feathers white at tip, the rest broadly tipped with white and with a broad subterminal band of black; bill and legs bright coral red; bare skin round the eye vermilion (*Jerd.*); edge of eyelid coral red; rest of it yellowish brown (*Oates*). Iris dark reddish brown, (*Jerd.*), blood-red (*Oates & Sharpe*).

*Length*.—15 to 15·5 inches; wing 5·8 to 5·9; tail 7·8 to 8·5; tarsus 1·7 to 1·9; culmen 1·45 to 1·6.

*Hab.*—The Himalayas, Assam, Sylhet, Arracan, Sikkim, Tennaserim, Nepal and the whole of British Burmah. Oates says from Arrakan down to Mergui in Tennaserim. It is abundant on the Pegu Hills. Davison met with it as far south as Meetamyo in Tennaserim; Bingham also noticed it in the Thoungyeen Valley, and Captain Wardlaw-Ramsay on the Karin Hills.

The Green Jay is essentially a forest bird, and is found either singly or in pairs; and according to Oates feeds principally on insects. They are frequently tamed and caged, and Blyth says are very amusing and imitative. Oates found the nest in April on the Pegu Hills; a large cup-shaped structure made of leaves and coarse roots and lined inside with fibres and fine roots. It was placed in a small tree about 20 feet from the ground and contained three eggs, which were greenish white, marked with yellowish brown.

The change which the plumage of this bird undergoes, both in life and in death, though remarkable, has not yet excited the interest of physiologists as the chameleon did. During life when newly moulted it is said to be of "a lovely green colour, the wings bright sanguine red, and the bill and legs deep coral;" the green however changes both in life and after death to verdigris or dull blue. *Cissa ornata* is a Ceylonese form. Though Ceylon is a British possession, it is not comprised in India, and hence the avifauna of that country, so well written of by Capt. Legge, is omitted. It differs from *Chinensis* in having a chestnut head and no black nuchal collar.

#### Gen. **Platysmurus.**—*Reich.*

Tail moderately long and graduated, the two centre feathers not much longer than the others; nostrils covered by a dense tuft of bristles; bill deep and compressed.

**142. *Platysmurus leucopterus.*** *Tem. Pl. Col.* 265; *Less. Traité* p. 341; *Sharpe, Cat. B. Br. Mus.* iii. p. 90; *Tweed. Ibis*, 1877, p. 318; *Hume and Dav. Str. F.* vi. p. 387; *Hume, Str. F.* viii. p. 106.—The WHITE-WINGED JAY.

Whole plumage black, except a bar formed by the tips of the greater coverts and the basal two-thirds of the central secondaries which are white; forehead crested, the feathers recurved; eye surrounded by scale-like black feathers; bill, legs, and feet black; irides lake-red to crimson.

*Length.*—16 inches; wing 7·6 to 7·8; tail 7·8 to 8; tarsus 1·55; culmen 1·25.

*Hab.*—Throughout the Malay Peninsula and Sumatra, ranging into Tennaserim. Mr. Davison observed it in Tennaserim from Meetamyo down to the extreme southern point at Malewoon. According to him, it "keeps entirely to the forests, going about usually in parties of from four to six. They have a

deep rolling metallic note which they continually utter as they move from tree to tree. They are excessively restless, and always on the move flying at a considerable height. They restrict themselves to the evergreen forests."

Gen. **Garrulus**.—*Briss.*

Bill moderately compressed, short, thick, as high nearly as broad; nostrils covered with incumbent bristles; wings and tail about equal in length; secondaries moderately long; second primary about as long as the secondaries; culmen decurved.

**143. *Garrulus atricapillus*.** *Geoffr. St. Hilaire, Etud. Zool. fasc. i.; Dresser, B. Eur. part xx. Garrulus melanocephalus, Gene. Mem. Acad. Torino, xxxvii. p. 298; Bree, B. Europe; Blf. Eastern Persia, vol. ii. p. 265; Hume, Str. F. i. p. 206; Murray, Zool. &c., Sind, p. 173; Sharpe, Cat. B. Br. Mus. iii. p. 97.*—The BLACK-HEADED JAY.

*Adult Female*.—General colour above clear vinaceous, washed with grey; the rump and upper tail coverts white (wings and tail much as in *G. cervicalis*); wing coverts grey, the least coverts barred with chestnut, the median series broadly chestnut at tip; the greater series velvety black, the outermost barred with blue and black; the bastard wing and primary coverts cobalt blue, narrowly barred with black; quills brownish black, externally greyish white; the secondaries white for two-thirds of the outer web, with slight indications of blue bars, the innermost black, inclining to chestnut on all but the tip of the last secondary; tail brownish black, bluish grey at base, and barred with the same colour for more than half the length of the centre feathers; nasal bristles white, washed with vinaceous at the tip; forehead, feathers round the eye, a broad eyebrow and the sides of the face and neck, as well as the throat, white; a broad malar bar of black; rest of under surface pale vinaceous, deeper on the sides of the body and under wing coverts, and inclining to buffy white on the centre of the abdomen, thighs and under tail coverts.

*Length*.—12·7 inches; culmen 1·2; wing 6·7; tail 6.

*Adult Male*.—Similar to the female but showing less grey on the back and rather more on the chest; the face and throat sometimes washed with a vinous tinge.

*Length*.—14·5 inches; wing 7·6; tail 7; culmen 1·4.—(*Sharpe, Cat. B. Br. Mus. vol. iii. pp. 97, 98.*)

*Hab*.—Sind, on the hills dividing Sind from Khelat (Hume). Syria and Palestine eastwards into Persia (Sharpe). Mr. Hume, in vol. i. p. 206 of *Stray Feathers*, states that he satisfied himself from the description given him of this bird, that it occurs on the hills dividing Sind from Khelat. I have no specimen from Sind, nor has Mr. Hume; but I give the above description of the bird to help its identification if met with.

- 144. *Garrulus leucotis*, Hume, *Proc. A. S. B.* 1874, p. 106; *id.* *Str. F.* ii. p. 443; *Wald. in Bly. B. Burm.* p. 89; *Sharpe, Cat. B. Br. Mus.* iii. p. 99; *Wardlaw-Ramsay, Ibis*, 1877, p. 460; *Hume and Davison, Str. F.* vi. p. 384; *Hume, Str. F.* vii. p. 105.—The BURMESE OR WHITE-EARED JAY.**

## PLATE.

Forehead and front of head white, with brown shaft streaks; lores, sides of the face, feathers above the eye, ear coverts, entire throat, rump and upper tail coverts white; crown and nape black, also the tail and a broad moustachial stripe; back ashy fawn colour, purer on the scapulars and lower back; abdomen and flanks ashy fawn colour; vent and under tail coverts white; under wing coverts chestnut, the lower series ashy; winglet, primary coverts and the outer greater series barred with black and cobalt blue; secondaries black, the basal two-thirds barred with black and cobalt blue; upper wing coverts chestnut; primaries black; margined with white brown on the outer webs towards the tip; innermost secondaries deep chestnut at base; tertiaries black, the inner ones partly chestnut; bill blackish horny, whitish at tip; legs and feet flesh colour; irides wood brown (Davison).

*Length*.—12·5 to 12·8 inches; wing 6·7 to 6·8; tail 5·7; tarsus 1·6 to 1·7; culmen 1·25 to 1·5.

*Hab*.—The Burmese countries, extending to Cochin-China.

The Burmese or White-eared Jay occurs in Burmah and Tennaserim. Davison procured it at Kyounkyat and also on the Mooleyit mountains. Capt. Bingham at Kaukarit and Capt. Ramsay near Tounghoo, where, he says, it is generally distributed on the hills and plains. Davison says he found it usually in small parties, occasionally in pairs or singly, going about the tops of trees, one occasionally perching itself upon the very top of some tree in the self-sufficient way in which only a Jay can. The habits are quite those of other Jays. Food, insects.

- 145. *Garrulus bispecularis*, Vigors, *P. Z. S.*, 1830, p. 7; *Gould, Cent. Him. B.* pl. 38; *Henderson and Hume, Lahore to Yarkand*, p. 242; *Jerd. B. Ind.* ii. p. 307, No. 669; *Hume, Nests and Eggs, Ind. B.* p. 416; *Sharpe, Cat. B. Br. Mus.* iii. p. 100; *Reid, Cat. B. Prov. Mus. Oudh*, p. 118. *Garrulus ornatus*, *J. E. Gray, in Hard. Ill. Ind. Zool.* i. pl. 23.—The HIMALAYAN JAY.**

Above vinaceous fawn colour, paler on the forehead, which is almost isabelline; moustachial streak black; under surface of body pale vinaceous fawn colour, the throat and abdomen paler; upper and under tail coverts and thighs white; least wing coverts vinaceous chestnut, deeper on the median series which are ashy black at base, the outermost having some transverse rays of grey; winglet and outer webs of the primary coverts barred with black and



**GARRULUS LEUCOTIS, *Hume.***





cobalt blue; other coverts black; the innermost chestnut with a black tip; primaries black, edged with white on the outer web; secondaries barred externally with black and cobalt blue for two-thirds their basal length; tail black with indications of grey bars near the base; "bill dusky horny; legs dull yellowish; iris red brown." (Jerdon).

*Length*.—12 inches; wing 6·35; tail 6; tarsus 1·55; culmen 1·15.

*Hab*.—The Himalayas, fairly common in the N.-W. Provinces, and Bengal; also Sikkim, Ladakh, and Nepaul. It is recorded as being abundant about Darjeeling.

**146. *Garrulus lanceolatus*, Vig. P. Z. S. 1830, p. 7; Gould, *Cent. Him. B.* pls. 39, 40; Hutton, *J. A. S. B.* xvii. pl. ii. p. 5; *Jerd. B. Ind.* ii. p. 308, No. 670; Hume, *Nests and Eggs, Ind. B.* p. 417; Brooks, *Str. F.* 1875, p. 253; Sharpe, *Cat. B. Br. Mus.* iii. p. 252. *Garrulus vigorsii*, *J. E. Gray in Hard. Ill. Ind. Orn.* pl. 9.—The BLACK-THROATED JAY.**

Whole head, crest, face and nape black; neck behind, and back pale vinaceous grey; throat blackish with broad lanceolate streaks of white, the foreneck shading off into blue grey, with a few nearly obsolete whitish streaks; rest of under surface vinaceous red; scapulars like the back; quills and bastard wing black, tipped with white, the primaries edged with grey, and all barred with deep cobalt blue and black on the outer web, the blue increasing on the outer secondaries and extending to nearly the tips of these feathers; primary coverts white, black basally and banded blue on the outer web of the first two; upper tail coverts grey; tail blue, narrowly barred with black and with a terminal white band; under wing coverts greyish black; bill horny; legs yellowish; irides reddish brown. In the young, the white shafts of the feathers on the throat are not developed.

*Length*.—12 to 13 inches; wing 5·7 to 6; tail 5·7 to 6; tarsus 1·25 to 1·5; culmen 1.

*Hab*.—The Himalayas, extending to Ladakh, Nepaul and Cashmere. Common about Mussoorie, Darjeeling, and Simla in small parties of 4 to 6. Breeds in May. The nest is a loose structure of twigs, roots, and fibres. Eggs 3—4 in number, stone grey with a greenish tinge, spotted and streaked with dark and dusky.

### Sub-family II.—FREGILINÆ.

Bill more or less lengthened, slender, arched and bright coloured; nostrils covered with plumes; wings long and pointed.

### Gen. *Graeculus*.—Koch.

Wings long, but not reaching the tip of the tail; bill long, curved, slender, compressed; the base of lower mandible feathered; the nostrils covered with setaceous plumes; 4th and 5th quills longest; tarsus robust, strong.

**147. *Graculus eremita*, Koch, *Syst. baier*, Zool. p. 91; Reid, *Cat. B. Prov. Mus.*, Oudh, p. 122. *Corvus graculus*, Linn. *Syst. N.* i. p. 158. *Gracula pyrrhacorax*, Scop. *Ann.* i. p. 42 (*nec. L.*). *Fregilus graculus*, Cuv. *Regne. Anim.*, 1817, p. 406; Gould, *Birds Eur.* pl. 210. *Pyrrhacorax graculus*, Tem. *Man.* i. p. 122; Dresser, *B. Eur.* pl. xxxvii. *Fregilus himalayanus*, Gould. *P. Z. S.*, 1862, p. 125; Jerd. *B. Ind.* ii. p. 318, No. 679. *Graculus graculus*, Sharpe, *Cat. B. Br. Mus.* ii. p. 146.—The HIMALAYAN CHOUGH.**

Above and below black, glossed with purple and green; wings black, externally dull green; tail dull greenish black; bill deep vermilion or coral red; legs the same; iris brown.

*Length*.—15 to 16 inches; wing 11 to 12·75; tail 5·8 to 6·75; culmen 1·95 to 2·2.

*Hab.*—Europe, Central Asia, N. and N.-E. Africa, the Himalayas, Beloochistan, in the Bolan Pass, Afghanistan, Persia, the N.-W. Provinces of India, Cashmere and Nepaul. In the Punjab and N.-W. Provinces it has been recorded from Kumaon and Darjeeling. Jerdon says it is found on the Himalayas in flocks, some of them emigrating with the Jackdaw to the plains of the Punjab. Blanford met with it between Bampur and Narmashir in April, at not more than 4,000 feet above the sea, and again in the higher parts of the Elburz Mountains. The Chough is as full of curiosity and as noted for petty thefts as its cousin, the Crow. It is easily tamed, but restless in captivity. It is extremely shy in the wild state, and does great service in killing the grubs which affect cultivation. Insects as grasshoppers, grubs of every kind, beetles and grain are its chief food. Of its nidification in India nothing is known. In England the nests are placed in clefts and cavities of inaccessible cliffs. The eggs are 4—5 in number, dull white, spotted with grey and brown, rather thickly at the larger end.

#### Gen. *Pyrrhacorax*.—*Vieill.*

Bill shorter and stronger than in *Fregilus*, also less curved, the tip of upper mandible toothed, and the base of lower mandible bare of feathers; feet robust; wings reaching to nearly the tip of the tail.

**148. *Pyrrhacorax alpinus*, Vieill. *N. Dict. d'Hist.* vi. p. 568; Gould. *B. Eur.* iii. pl. 218; Bly. *Cat. B. Mus. A. S. B.* 90; Jerd. *B. Ind.* ii. p. 319, No. 680; Henderson and Hume, *Lahore to Yarkand*, p. 249; Dresser, *B. Eur.* pl. xxxviii; Ibis, 1875, p. 237; Soullly, *Str. F.*, 1876, p. 162; Blf. *East Pers.* p. 263; Sharpe, *Cat. B. Br. Mus.* iii. p. 149.—The ALPINE CHOUGH.**

#### PLATE.

Glossy black all over, with iridescent tints; bill yellow; legs bright red or dark vermilion red; iris brown.



FRIGILUS DRACULUS



*Length*.—16·5 inches; wings 10·75 to 11·25; tail 6·8 to 7; tarsus 1·9 to 2; culmen 1·4.

*Hab*.—Europe, ranging to the Himalayas, the N.-W. Provinces, the Punjab, and Nepal.

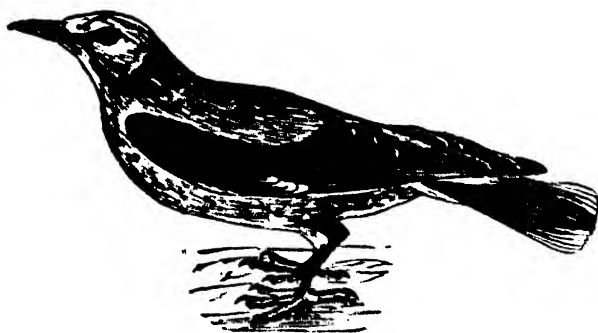
The Alpine Chough is plentiful between Simla and Mussoorie. It has also been met with in Darjeeling and the higher parts of the N.-W. Provinces, but rarely in the plains of the Punjab. It is found in large flocks in the Himalayas, where it feeds chiefly on various fruits as the mulberry; and breeds in holes in rocks. Of the sub-family, *Fregilinæ*, are three species of *Podoces*, viz., *Hendersoni*, Hume, *Ibis*, 1871, p. 408; *Hab*. Yarkand; *Biddulphi* Hume, *Str. F.* ii, pp. 503, 529, collected by Dr. Stolickza in Eastern Turkestan, and *humilis*, Hume, *Ibis*, 1871, p. 408, obtained by Dr. G. Henderson in the Sanju Pass, Yarkand. This last will probably be found to range to the Himalayas.

### Fam.—ORIOLIDÆ.

Bill long, strong, moderately broad at the base, hooked, and distinctly notched at the tip; nostrils in front of the base of the bill and quite bare; tail rather short; tarsi short; feet small; claws curved.

### Gen. *Oriolus*.—*Lin*.

Characters those of the family; the culmen keeled; wings with the 1st quill very short, 2nd shorter than the third, which is the longest; upper tail coverts long. Lores feathered, but generally with a small bare space behind the eye. Outer toe syndactyle. Nostrils lateral.



**149. *Oriolus galbula*.** *Linn*. *S. N.* i. p. 160; *Naum. vogt. Deutsch* ii. tab. 61; *McGill. Br. B.* ii. p. 69; *Gould. B. Eur.* ii. pl. 71; *Gray, Gen. B.* i. p. 232; *Layard, B. South Afr.* p. 135; *Shelley, B. Egypt*, p. 156; *Sharpe, Ibis*, 1870, p. 215; *id. Cat. Afr. B.* p. 53; *Hume, Str. F.*, 1873, p. 182; *Murray, Hdbk. Zool., &c., Sind*, p. 143; *Murray, Vert. Zool. Sind*, p. 136.—The GOLDEN ORIOLE.

*Adult Male*.—Golden yellow, a blackish brown spot between the eye and the bill; wings and tail black; a yellow spot on the quills not far from the middle of the wing when closed; tail feathers terminated with yellow; bill reddish maroon; iris red; feet bluish grey.

*Length*.—10 to 10·5 inches; bill at front 1; wing 5·9; tail 3·1; tarsus 0·8.

*Adult Female*.—Greenish olive above, greyish white with a yellowish tinge below, where the plumage is marked by some white distant greyish brown stripes or dashes disposed longitudinally; wings brown, bordered with olivaceous grey; tail olivaceous, tinged with black; beneath yellowish with a brownish black mark somewhat in the form of an irregular Y; no dark streak behind the bill and the eye.

The young of the year resembles the female, but the longitudinal stripes of the lower parts are more numerous and deeper in colour; bill blackish grey; iris brown.

It is said to breed in parts of Europe, laying generally four or five eggs, ~~white or purplish white~~, speckled with lake red and dusky.

*Hab*.—The whole of Europe, S.-W. Asia, South Asia, South Africa and Persia. A visitant in Sind during October and November.

**150. Oriolus kundoo**, *Sykes, P. Z. S.*, 1832, p. 87; *Gray, Gen. B.* i. p. 232; *Blyth, J. A. S. B.* xv. p. 49; *Jerd. B. Ind.* ii. p. 107, No. 470; *Hume, Lahore to Yarkand*, p. 167; *Murray, Hdb. Zool. &c., Sind*, p. 143; *Murray, Vert. Zool. Sind*, p. 137; *Reid. Cat. B. Prov. Mus. N.-W.-P. and Oudh*, p. 92.—The INDIAN ORIOLE.

*Adult Male*.—Bright golden yellow above and below; lores, feathers round the eye and a streak through the eye black; scapulars externally black; the edge of the wing and a bar formed by the primary coverts yellow; the bases of the primary coverts black; quills black; the primaries edged with yellow; secondaries with yellow tips; tail with the central feathers black and narrowly yellow tipped, the next pair black, with a broad yellow tip, the others black at the base and yellow for the greater part of their terminal length; under wing and tail-coverts golden yellow; bill deep lake red; legs plumbeous; irides blood-red.

*Length*.—9 to 9·5 inches; wing 5·5; tail 3·5; tarsus 0·95. The female is like the male, but with a slightly greenish tint.

*Hab*.—Throughout India to Nepal, Cashmere and Eastern Turkistan. Probably a resident in Sind, but nothing is known of its nidification in the Province. Specimens have been obtained in April, June, September and December. The September birds were the young of the year.

**151. Oriolus diffusus**, *Sharpe, Cat. B. Br. Mus.* iii. p. 197; *Legge, B. Ceylon*, p. 355. *Oriolus indicus*, *Jerd. Ill. Ind. Orn.* pl. 15; *id. B. Ind.* ii. p. 109, No. 471; *Salvad Ucc. Born.*, p. 275; *Hume, Str. F.* vii. p. 132; *Bl. and Walden, B. Burm.* p. 139; *Hume and Dav. Str. F.* vi. p. 329; *Hume, Str. F.* viii. p. 99; *Oates, B. Br. Burm.* i. p. 211. *Oriolus cochinchinensis*, *Apud David et Oust. Ois. Chine*, p. 132.—THE BLACK-NAPED ORIOLE.

Above and below bright yellow; lores, and a band through and above the eye continued to the nape, on each side black. Primaries and secondaries black, tipped and edged narrowly with yellowish white, the latter more broadly; outer webs of tertiaries and a portion of the inner webs next the shaft yellow; primary coverts black, tipped broadly with yellow; inner webs of greater coverts black, also the winglet; tail black, tipped with yellow; the central pair narrowly and the others progressively broader towards the outer feathers.

The young have the feathers of a greenish tinge, and dark-shafted on the breast and abdomen, the band on the nape indistinct; tail greenish with yellowish tips; irides and eyelids pinkish; legs and feet plumbeous; bill pinkish red.

*Length*.—9·6 to 10 inches; wing 5·85 to 6; tail 3·85 to 4; tarsus 1 to 1·05; culmen 1·25 to 1·4.

*Hab.*—The Indian Peninsula to Tennaserim, China, and Mongolia. Oates says it appears to be a winter visitant to British Burmah. Blyth records it from Arrakan. It is said to be common about Pegu, Rangoon, and in the Irrawaddy delta. Davison met with it in Tennaserim from Thatone to Malewoun during winter. Jerdon procured it from the Malabar jungles, and mentions it as having been procured at Dharwar, and to be found near Calcutta.

The black-naped Oriole affects forests, large groves and gardens. It feeds on fruit and insects, and is strictly arboreal in its habits.

**152. Oriolus tenuirostris**, *Bly. J. A. S. B.* xv. p. 48; *Hume, Str. F.* iii. p. 131; *Bl. B. Burm.* p. 140; *Sharpe, Cat. B. Br. Mus.* iii. p. 198; *Hume and Dav. Str. F.* vi. p. 329; *Hume, Str. F.* viii. p. 99; *Scully, Str. F.* vii. p. 298; *Oates, B. Br. Burm.* i. p. 212.—THE BURMESE BLACK-NAPED ORIOLE.

Similar to *O. diffusus*, but differs in having a more slender and slightly smaller bill, the alar speculum larger, the tail feathers more broadly yellow terminally, and the nape band narrower in width, '4 against '7 in *O. diffusus*. Bill pale pink, black in the young; inside of mouth fleshy; legs plumbeous; irides crimson.

*Length*.—9·5 to 10 inches; wing 5·35 to 5·9; tail 3·5 to 3·7; tarsus 1; culmen 1·3 to 1·35.



*Hab.*—This species has a very wide range, especially in the Indo-Burmese countries. It is spread over the whole Pegu division. Abundant in the Thayetmyo districts. Wardlaw-Ramsay obtained it in Karenne, and Col. Lloyd at Tounghoo. In Tennaserim it is rare. It is recorded from Arrakan, also from Cachar, Munipoor, and Nepal. (Oates.) Habits those of the last.

**153. *Oriolus andamanensis*, Tytler and Beavan, *Ibis*, 1867, p. 326; Ball, *Str. F.*, 1873, p. 72; Hume, *Str. F.* 1874, p. 227; Sharpe, *Cat. B. Br. Mus.* iii. p. 200. *Oriolus Horsfieldi*, Blyth, in *Mouatt's Andaman Isl.* p. 352 (nec Sws). *Broderipus andamanensis*, Walden, *Ibis*, 1873, p. 305.—The ANDAMAN ORIOLE.**

*Adult Male.*—General colour above and below brilliant yellow; crown of head yellow like the back, from which it is separated by a horse-shoe band of black, drawn from the lores, enclosing the eye and passing round the nape; wing coverts yellow; the greater series black on the inner web; primary coverts black, tipped with yellow; but not very broadly; *rest of the wings black with only a faint terminal edging of yellow to the quills, forming a little larger spot on the inner secondaries*; central tail feathers black, tipped with yellow and slightly washed with olivaceous near the base; all the other feathers black at base, which decreases in extent towards the outer tail feathers. (Sharpe.) "Bill carneous or delicate pink; legs and feet plumbeous, sometimes tinged with green, the soles dirty grey; iris carmine; the eyelids brownish red." (Hume.)

The adult female is duller in colour, and the yellow of the feathers decidedly tinged with olivaceous. Bill in the young black.

*Length.*—9·5 inches; wing 5·3; tail 4·1; tarsus 0·95; culmen 1·2.

*Hab.*—The Andaman Islands; Port Blair.

Nothing is known of the nidification of this species nor of *Oriolus macrurus*, Blyth, a species found in the Nicobars. It is possible this latter will be found in Burmah. A description is, however, given of the species.

Above and below bright yellow; forehead yellow; the lores, feathers round the eye and remainder of head and nape black; wings black; wing coverts yellow, the greater series black on the inner web; primaries externally edged with grey; secondaries narrowly edged with yellowish near the tip, almost imperceptible; primary coverts tipped with yellow forming an alar speculum; two centre tail feathers black with a narrow yellow tip, rest of the feathers yellow with black bases, the extent of the black greater on the inner web; *outer tail feathers* almost entirely yellow with a very little black near the base. (Sharpe.) Bill carneous; legs and feet plumbeous; claws horny; iris carmine. (Hume.)

*Length.*—11 inches; culmen 1·4; wing 5·2; tail 4·7; tarsus 1·1.

The young bird has the bill of a dull fleshy colour; iris dull red-brown. (Hume.)

**154. *Oriolus xanthonotus*, Horsf. Tr. Lin. Soc. iii. p. 153; Tem. pl. col. 214; Horsf. Zool. Res. Java; Stolicka, J. A. S. B. xxxix. pt. ii. p. 317; Salvad. Ucc. Born. p. 277; Sharpe, Cat. B. Br. Mus. iii. p. 213; Tweed. P. Z. S., 1878, p. 616; Hume and Davison, Str. F. vi. p. 330; Hume, Str. F. viii. p. 99. *Oriolus castanopterus*, Blyth, J. A. S. B. xi. p. 796; Oates B. Br. Burmah, i. p. 215.—The SMALL BLACK-HEADED ORIOLE.**

Head, neck, chin and throat black; breast, abdomen and flanks white, streaked with black; under tail coverts yellow; sides of the breast tinged with yellow; axillaries grey; under wing coverts black, margined with yellow; back, scapulars, lesser wing coverts, rump and upper tail coverts yellow; median wing coverts black, broadly tipped with yellow; rest of the coverts and all the quills black, most of them very narrowly edged with yellow; tail black, tipped with yellow, very narrowly on the central pair of feathers and progressively increasing in extent on the outer feathers.

*Length*.—7·5 inches; wing 4·35; tail 3·1; tarsus 0·75; culmen 0·9.

Immature specimens have black edgings to the feathers of the back and mesial dark streaks on the upper tail coverts.

The adult female has the whole upper plumage with the lesser wing coverts and tertiaries olive yellow, and the feathers of the head with dusky striations; lores grey; feathers round the edges of the eyelids yellow; ear coverts olive yellow with paler shafts; chin and throat whitish; breast, abdomen, and flanks white, streaked with black; under tail coverts yellow; rest of the plumage as in the male, but everywhere more dull. Legs and feet plumbeous; bill dark fleshy; irides crimson.

*Length*.—8 inches; wing 4·4; tail 2·8; tarsus ·8; culmen 1·1.

*Hab*.—Malacca, Java, Sumatra, Borneo, Labuan, the Indian Archipelago, Malay Peninsula, and the extreme south of Tennasserim, where it was procured by Davison.

Habits those of its congeners.

**155. *Oriolus melanocephalus*, Lin. S. N. i. p. 160; Jerd. B. Ind. ii. p. 110, No. 472; Hume, Nests and Eggs, Ind. B. p. 301; Bly. B. Burm. p. 139; Sharpe, Cat. B. Br. Mus. iii. p. 215; Oates, S. F. vii. p. 48; Cripps, Str. F. vii. p. 99; Anderson, Yunnan Exped. p. 660; Hume, Str. F. vii. p. 99; Legge, B. Ceylon, p. 57; Oates, B. Br. Burm. i. p. 214. *Oriolus Ceylonensis*, Bonap. Consp. i. p. 347; Jerd. B. Ind. ii. p. 311; Hume, Str. F. i. p. 439. *Oriolus Himalayanus*, Legge, B. Ceylon, p. 358.—The BLACK-HEADED ORIOLE.**

Above and below bright golden yellow; head, chin, throat and upper breast black; scapulars and wing coverts bright yellow; winglet and primary coverts

black, the latter yellow for their terminal half, forming a large alar speculum; upper wing coverts yellow; first primary black; the others black, tipped with yellow, which increases in extent towards the secondaries, the innermost of which have the entire outer web yellow; base of primaries yellow; tail yellow, the two central feathers with a broad subterminal bar of black; the next on either side with a patch of black.

The female is not unlike the male, but the yellow is less bright and has an olivaceous or a greenish tinge. The young is duller in colour everywhere, the forehead is streaked with black, the feathers of the crown and nape edged with yellowish; throat white, streaked with black. Bill lake red; irides rich red; legs plumbeous.

*Length of adult male and female*—9·5 to 10 inches; wing 5·4 to 5·55; tail 3·4 to 4; tarsus 1· to 1·05; culmen 1·15 to 1·3.

*Hab.*—Throughout the Peninsula of India, extending down the Malay Peninsula. Occurs throughout Burmah and Ceylon; also in Cochin-China and Siam. It is found in the Punjab, N.-W. Provinces, Bengal, Rajpootana, Central India, the Concan, Deccan, South India, the Malabar Coast, the Carnatic, Pegu, Tennaserim, British Burmah, the Andamans and Nepaul. I do not follow Sharpe in separating *O. ceylonensis*; either as a distinct species of or sub-species, nor Captain Legge in calling the larger form *O. himalayanus*. Mr. Sharpe (*Cat. B. Br. Mus.*) observes, that *O. ceylonensis* "although rather smaller than Himalayan examples, the alar speculum is larger than in the Cingalese form, and he looks upon it as intermediate between the continental and insular birds. *O. ceylonensis* is not at all a good species, and perhaps in a large series would be found to be inseparable,—which it certainly is from *O. melanocephalus*."

The black-headed Oriole affects both the densest forests and open jungles, also orchards and gardens. Oates says, its exquisite call of five whistling notes is one of the most charming sounds heard in the jungle, and it seems to be uttered at all hours of the day and almost all the year round. It nests from March to June, generally at a considerable height from the ground. The nest is suspended between two twigs, and in shape is like a cup. The materials used are leaves, fine twigs and vegetable fibres. Eggs 2—3, pinkish white, spotted with black. It feeds chiefly on fruit. Jerdon says, the figs of the Banian, peepul and other *Fici*, also mulberry, blossoms, and buds.

**156. *Oriolus trailli*, Vig. P. Z. S., 1831, p. 175; Jerd. B. Ind. ii. p. 112, No. 474; Sharpe, Cat. B. Br. Mus. iii. p. 222; Hume, Str. F. viii. p. 99; Scully, Str. F. v. p. 299. *Psaropholus trailli*, Jerd. and Selby, Ill. Orn. iv. pl. 20; Bly. and Walden, B. Burm. p. 139.—THE MAROON ORIOLE.**

Whole head, neck, chin, throat and wings glossy black; rest of the plumage maroon-red.

The young have the crown and nape dark brown; the back, rump, scapulars and wing coverts also dark brown, each feather edged with rufous. Upper tail coverts maroon-red, with black shafts; the tail maroon-red, the greater part of the central feathers and the edges of the outer webs of the other feathers brown; under surface white, streaked with brown. Bill pale bluish-grey; irides pale buffy-yellow; feet plumbeous; claws blue at base, pale horny at tip. (Scully.)

*Length*.—11 inches; tail 4.5; wing 6; tarsus 1; bill from gape 1.45.

*Hab*.—The Himalayas, extending to Nepaul, Sikkim, Assam, Arrakan, Burmah and Tennaserim. Occurs in Darjeeling, Nynee Tal, Bhootan, and Kumaon. Rare in Burmah. Obtained by Capt. Wardlaw-Ramsay, at Tounghoo, Karenne and on the Karin Hills.

The Maroon Oriole is said to be found in small flocks, keeping to high trees. It has a fine loud mellow call. Feeds on insects, as caterpillars.

### Family—DICRURIDÆ—DRONGO SHRIKES.

Bill rather large, wide at base, thick, culmen curved and keeled, tip notched; rictal bristles moderately developed; nostrils basal, concealed by short plumes; tail usually long and furcate; outer feathers generally much lengthened. Plumage generally black or steel blue.

### Gen. *Dicrurus*.—*Vieill*.

Characters same as that of the family. Tail nearly square, more or less forked, the outer feathers not ending in a racket, nor curved upwards.

**157. *Dicrurus annectens***, *Hodgs. Ind. Rev.* i. p. 326; *Sharpe, Cat. B. Br. Mus.* iii. p. 231. *Edolius annectens*, *Blyth, J. A. S. B.* xi. p. 173. *Dicrurus balicassius* (*nec Lin.*), *Blyth, J. A. S. B.* xi. p. 175; *id.* xv. p. 298; *Jerd. B. Ind.* i. p. 430, No. 279; *Hume, Str. F.* 1874, pp. 209, 474; *Bly. and Walden, B. Burm.* p. 131; *Tweedd. Ibis.*, 1878, p. 72. *Dicrurus annectens*, *Hume and Davison, Str. F.* vi. pp. 213, 509; *Hume, Str. F.* viii. p. 91; *Oates, Str. F.* x. p. 201; *id. B. Br. Burm.* i. p. 217.—The CROW-BILLED DRONGO.

Black, glossed with steel blue, except the lores, ear coverts, inner webs of quills, axillaries and under wing coverts. Young and adolescent birds have the under wing coverts and under surface tipped with greyish white. Bill and legs black; iris red.

*Length*.—10 to 11 inches; wing 5.45 to 6; tail 4.1; to tip of outer feather 5.15 to 6; culmen 1.1; tarsus 0.75 to 0.82.

*Hab*.—The Malay Peninsula, Sumatra, Cochin-China. Found also in Nepaul, where Jerdon says it is rare. Extends thence eastward through Lower Bengal and Dacca to Assam, Burmah and Malacca. Found also in the Oudh

Terai. Oates says, it sweeps through Pegu every year in October ; but whether it comes from the North or from the South he is unable to say ; it is not seen at other times. Capt. Wardlaw-Ramsay procured it in Rangoon. Mr. Davison says it is not uncommon in the southern third of Tennasserim. Oates had examples from Malewoon, procured from December to February. Its habits are said to be those of the Common Drongo Shrike.

Gen. **Chibia**.—*Hodgs.*

Bill lengthened, compressed, curved and keeled on the culmen, tip hooked and obsoletely notched ; rictal bristles short ; forehead crested with hairs which fall over the neck ; tail forked, outer feathers slightly lengthened, turned up ; feathers of head and neck lanceolate.



**158. *Chibia hottentottus*, Lin., *Syst. Nat.* i. p. 155. *Chibia hottentotta*, *Ferd. B. Ind.* i. p. 439, No. 286 ; *Bly. B. Burm.* p. 128 ; *Anders. Yunnan Exped.* p. 651 ; *Hume, Nests and Eggs*, p. 194 ; *Hume, Str. F.* iii. p. 101 ; *Sharpe, Cat. B. Br. Mus.* iii. p. 235 ; *Tweedd. Ibis*, 1878, p. 73 ; *Hume and Davison, Str. F.* vi. p. 222 ; *Hume, Str. F.* viii. p. 92 ; *Oates, Str. F.* viii. p. 167 ; *Scully, Str. F.* viii. p. 272 ; *Bingham, Str. F.* ix. p. 174 ; *Oates, B. Br. Burm.* i. p. 227.—The HAIR-CRESTED DRONGO.**

Whole plumage black, with metallic blue reflections on the back and lower parts ; lores and frontal plumes black, with a crest of long hairs springing from the base of the forehead and falling over the nape ; sides of face purplish black ; feathers of the head and sides of neck metallic steel green, those on the neck, long and lanceolate ; feathers of the throat and neck tipped with metallic steel green. Upper surface of wing metallic bronze green ; rest of the plumage black with metallic steel blue or green reflections ; outer feathers of the tail recurved inwards at the tips. Bill and legs black ; iris dark brown.

*Length*.—12·5 to 13 inches ; wing 6·5 to 6·95 ; tail 5·6 to 6·5 ; culmen 1·55 to 1·6 ; tarsus 0·9 to 1.

*Hab.*—India, ranging through Assam and Burmah to China. Jerdon records it from Southern India, the Eastern Ghauts, Malabar, Wynaad, and Chota Nagpur, and says that it is found also about Calcutta, in the Sunderbuns and in the Himalayas. Blyth observed it in parts of the forests of Upper Martaban, and Jerdon himself procured specimens in the warmer valleys near Darjeeling. According to Oates, it is found over the whole of Burmah, except, perhaps, in the southernmost portion of Tennaserim. It is said to occur in Arrakan and in many parts of Pegu. Fairly common at Prome. Davison got it in Tennaserim and Captain Bingham in the Thoungyeen Valley. It has also been procured at Tounghoo and on the Karin Hills.

The Hair Crested Drongo is an inhabitant of thick forests or groves. It is said to feed on insects as wasps, bees, beetles, &c. Breeds in May and June. Nest constructed of fine twigs, placed generally in a fork at the top of very high trees. Eggs three in number, white, spotted and streaked with reddish brown, or purplish and claret.

Gen. **Chaptia**.—*Hodgs.*

Tail strongly forked; outer tail feathers not much recurved at tip; plumage spangled with metallic bronze tips; frontal plumes dense. Bill depressed and more feeble than in *Dicrurus*. 1st quill short, 4th longest, 3rd and 6th equal.



**159. Chaptia ænea**, Vieill, *N. Dict. d'Hist.* ix. p. 586; *Jerd. B. Ind.* i. p. 433; *Hume, Nests and Eggs*, p. 192; *Bly. and Wald. B. Burm.* p. 128; *Hume, Str. F.* iii. p. 100; *Armstrong, Str. F.* iv. p. 320; *Sharpe, Cat. B. Br. Mus.* iii. p. 243; *Anders. Yunnan Exped.* p. 652; *Hume and Davison, Str. F.* vi. p. 217; *Hume, Str. F.* viii. p. 92; *Oates, Str. F.* viii. p. 166; *Scully, Str. F.* viii. p. 272; *Bingham, Str. F.* ix. p. 173; *Oates, B. Br. Burm.* i. p. 223. *Edolius picinus* (*S. Mull*) *Bonap. Consp. Av.* 1. p. 352—The BRONZED DRONGO.

Whole plumage black, glossed with metallic bronze on the upper and under surface, except the rump, vent, under tail coverts, and lower abdomen, which are dull greyish brown; throat and breast spangled with metallic bronze tips to the feathers; under wing coverts black, only slightly glossed with bronze; lores and sides of face unglossed dull or brownish black. Bill and feet black; iris blackish brown (pinkish hazel, *Oates*). Eyelids purplish grey.

*Length.*—9 to 9.5 inches; wing 4.75 to 5; tail 4.75 to 5; tarsus 0.65; culmen 1.0.

*Hab.*—The moist climates of India generally, extending to Assam and Burmah. Occurs along the Malabar Coast, in Travancore, Southern India generally, Lower Bengal, Central India and on the slopes of the Himalayas to Nepaul. Oates says it is found in every part of Burmah, and that Mr. Blyth gives it from Arrakan. He procured it in Pegu, and both Davison and Captain Bingham found it abundant in all parts of Tennaserim, while Captain Wardlaw-Ramsay obtained it at Tounghoo, in the Karen Hills and in Karenne.

The Bronzed Drongo is an inhabitant of dense and lofty forests, and is usually found in small parties, near the top of some lofty tree, whence it sallies forth, darts on passing insects, and returns generally to the same perch. Oates found a nest in April. It was cup-shaped, placed at the top of the higher branches of a Jack tree, *Artocarpus integrifolia*, and made of fine grass, strips of plantain bark and vegetable fibres over-laid at the edges with cobweb. Eggs two in number, of a salmon colour and marked with darker shades of the same.

**160. *Chaptia malayensis*, Blyth. J. A. S. B. xv. p. 294 (ex. A. Hay MS.); Jerd. B. Ind. i. p. 434; Sharpe, Cat. B. Br. Mus. iii. p. 244.** *Chaptia malayana*, Sharpe, *Ibis*, 1876, p. 45.—The MALAY DRONGO.

Differs from *C. ænea* in having the whole plumage, including the vent, rump and upper and under tail coverts of a glossy-metallic greenish black colour, the abdomen and flanks greyish black. It is also much smaller, adults measuring 8.3 against 9.5 inches in length; wing 4.5; tail 4; tarsus 0.6; culmen 0.85.

*Hab.*—The Malay Peninsula, Sumatra, Borneo and, according to Dr. Tiraud, Cochinchina. Habits, those of the last.

#### Gen. *Buchanga*.—Hodgs.

Bill moderate, depressed at base and slightly hooked; culmen keeled and notched at tip; rictal bristles strong; frontal plumes dense, but not elongated to form a crest. Plumage black; tail forked.

**161. *Buchanga atra*, Herm. Obs. Zool. p. 208; Murray, Vert. Zool. Sind, p. 126; Sharpe, Cat. Passerif. B. Br. Mus. p. 246.** *Dicrurus macrocercus*, Viell. N. Dict. ix. p. 588; Jerd. Mad. Journ. xiii. pt. ii. p. 121; *id.* B. of Ind. i. p. 427, No. 278; Gray, Gen. B. i. p. 286; Str. F. iv. 278; vi. 213; vii. 272; Murray, Hdbk., Zool., &c., Sind, p. 137. *Buchanga albirictus*, Hodgs. Ind. Rev. p. 326; Hume, Str. F., 1873, p. 178; Ball. Str. F., 1874, p. 402. *Dicrurus balicassius*, Sykes, P. Z. S. 1832, p. 86 (*nec. l.*).—The COMMON DRONGO SHRIKE OR KING CROW.

Head, hind neck, back, upper tail coverts, lesser and median wing coverts glossy blue-black; a white spot at the gape; chin, throat, lores, sides of the face, and under surface of the body black, less glossy than the upper surface, and with a greenish cast; greater and primary coverts black, glossed greenish, also the secondaries and tertiaries; primaries and tail duller black; the inner webs of the primaries and under surface of the tail dusky. Young with whitish lunules on the under surface of the body. Bill and legs black; irides red.

*Length*.—12 inches ; wing 5·75 ; tail 6·25 to tip of outer feather ; tarsus 0·9.

*Hab.*—The whole of India and Ceylon, extending to Assam, the Indo-Chinese region, China, Formosa and Burmah. Occurs also in Java, Siam, Cochin-China, the N.-W. Himalayas, Nepaul, Beloochistan and Afghanistan. It is found throughout the Punjab, N.-W. Provinces, Oudh, Bengal, Rajpootana, Central India, Kutch, Guzerat, Konkan, Deccan, Travancore and South India generally. According to Oates it is a common bird in Burmah and Pegu. In the latter it is common from October to January. Dr. Armstrong found it common in the Irrawaddy delta ; Davison found it common in Tennaserim from Moulmein to Malewoun, and Captain Bingham met with it at Tounghoo.

The King Crow is chiefly found in open jungle, and seldom or never in forests. It is a conspicuous bird everywhere about a station. Its presence is readily known simply by its cheerful and pretty notes. Perched on a telegraph wire, wall, or on a bare branch, its sweet notes are uttered, not forgetting now and again its rather harsh cry. A couple of pairs within one's grounds often make their chattering, as if one to another for half an hour at a time, sound disagreeable. Its loquacity is unsurpassed, especially in the early morn. It is often seen on the backs of cattle, sheep and goats when out grazing in company with *Acridotheres tristis* or *ginginianus*, the common crow, and not unfrequently *Neophrons*.

The food of the King Crow is chiefly insects of sorts, as grasshoppers, mantises, bees, wasps, ants, dragon flies, moths and butterflies. I don't know that it has a predilection for anything higher than members of the Invertebrates. During the breeding season, which lasts from May to July, March to April, and August and September, according to locality, the King Crow is very pugnacious. It pursues and drives away every bird it suspects, even hawks, kites, and crows, especially when the female is sitting for incubation. It places its nest generally in the fork of the outer branches of a tree, selecting generally an *Acacia*. It is cup-shaped and shallow, and made of fine twigs and grass. In some instances lined outside with cobwebs and inside with a little hair or feathers. Eggs generally 4 in number, reddish or pinkish white, prettily streaked, spotted and blotched with brick red or brown.

**162. *Buchanga longicaudata*.** *A. Hay, Jerd. Mad. Journ.* xiii. p. 121 ; *Jerd. B. Ind.* i. p. 430, No. 280 ; *Wald. P. Z. S.* 1866, p. 549 ; *Hume, Nests and Eggs*, p. 139 ; *Hume, Str. F.* iii. p. 97 ; *Wald. in Bl. B. Burm.* p. 130 ; *Sharpe, Cat. B. Br. Mus.* iii. p. 249 ; *Hume and Davison, Str. F.* vi. p. 213 ; *Legge, B. Ceylon*, p. 390 ; *Tweed. Ibis*, 1878, p. 74 ; *Hume, Str. F.* viii. p. 91 ; *Scully, Str. F.* viii. p. 270 ; *Oates, Str. F.* x. p. 202. *Dicrurus himalayanus*, *Tyler, Ibis*, 1868, p. 200. *Buchanga Waldeni*, *Beavan, Ibis*, 1868, p. 497 ; *Oates, B. Burm.* i. p. 220.—The DARK-ASHY or LONG-TAILED DUCOEO.

Whole upper plumage including the wings and tail blackish ashy, with a greenish gloss ; sides of the face, frontal plumes and under surface of the body



dark ashy, paler towards the vent; under tail coverts dull greyish white, paler and nearly white at the tips; under wing coverts similarly tipped; in old or fully adult birds, these whitish tippings are absent. Bill and legs black; iris red.

*Length*.—11 to 11·5 inches; wing 5·5 to 5·6; tail, including outer feathers, 6·5 to 6·7; tarsus 0·8; culmen 1.

*Hab.*—India generally, the Indo-Burmese countries, Ceylon, N.-W. Himalayas to Nepaul and Ladakh. Found in Travancore, and Southern India generally; also on the Malabar Coast, Wynaad, Coorg, the Neilgherries, Bengal, Punjab, N.-W. and Central Provinces. In Southern and parts of Western India, it is a permanent resident, also in S. Pegu. Davison found it in Tennaserim from Moulmein to Mergui. In Upper Pegu it is said to be replaced by *B. leucoophæa*.

Its habits are quite those of *B. atra*, but unlike it, it inhabits or rather affects forests, and has a pleasant song. Breeds during April and May. Nest similar to that of *B. atra*. Eggs, 3—4 in number typically white with brick red spots.

**163. *Buchanga cineracea*, Sharpe, Cat., B. Br. Mus., iii. p. 250.** *Edolius cineraceus*, Horsf. Tr. Linn. Soc. xiii. p. 145. *Dicrurus leucophæus*, Gray. Gen. B. i. p. 287. *Dicrurus intermedius*, Bly. J. A. S. B. xv. p. 298. *Dicrurus leucophæus*, Vieill. N. Diet. d'Hist. Nat. ix. p. 587; Hume, Str. F. iii. p. 99. *Buchanga pyrrhops*, (Hodg.) Wald. in Bl. B. Burmah, p. 130; Armstrong, Str. F. iv. p. 320; Sharpe, Cat. B. Br. Mus. iii. p. 251; Hume and Dav. Str. F. vi. p. 216; Hume, Str. F. viii. p. 92; Oates, Str. F. x. p. 202. *Buchanga leucophæa*, Hume and Dav. Str. F. vi. p. 317; viii. p. 92.—**THE PALE-ASHY DRONGO.**

Whole plumage bluish ashy, glossy above, paler underneath and unglossed on the breast; frontal plumes and lores black, upper wing coverts like the upper surface but centred darker; quills tinged with ashy on the outer webs. Tail bluish ashy; the shafts black and the tips brownish. Bill and legs black; iris crimson.

*Length*.—10 to 11 inches; wing 5·2 to 5·75; tarsus 0·8; culmen 2.

*Hab.*—Dacca (Bengal) to the N.-W. Himalayas, and Nepaul, ranging to Pegu, Burmah and Java. Occurs also in Siam, Cochin-China, and Eastern China.

The habits of this Drongo are quite those of its congeners. The structure of the nest and the size and colour of its eggs like those of *B. longicaudata*. It is found in all the well-wooded districts of Burmah and Bengal.

**164. *Buchanga leucogenys*, Wald. Ann. and Mag. Nat. Hist. v. p. 219; id. in Bl. B. Burm. p. 131; Sharpe, Cat. B. Br. Mus. iii. p. 251; David et Oust., Ois. Chine, p. 108, pl. 77; Tweed, Ibis, 1878, p. 69; Hume**

and *Dav. Str. F.* vi. p. 216; *Hume, Str. F.* viii. p. 92; *Oates, B. Br. Burmah* i. p. 222. *Dicrurus leucophæus* (*Vieill.*) *apud. Hume, Str. F.* ii. p. 210.—The WHITE-CHEEKED DRONGO.

Whole upper plumage clear pale ashy grey; shafts of the quills and tail and tips of the first 6—7 primaries black; upper tail coverts and tail lighter grey, inclining to blackish brown at the tips. Nasal bristles black; lores, feathers round the eye and ear coverts pure white. Cheeks and under surface of body pale ashy grey, lighter and nearly white on the abdomen and under tail coverts; under wing coverts light grey edged with white. Bill and legs black; iris red.

*Length.*—10·2 to 10·5 inches; wing 5·5; tail 4·5; to tip of outer feathers 5·7; tarsus 0·7; culmen 0·95.

*Hab.*—Malacca, ranging through the Indo-Chinese region to China and Japan. (Sharpe.)

Extends down the Malay Peninsula, and is found in Siam and Cochin-China. Davison procured it in South Tennaserim, where he says it was abundant as far north as Mergui. He adds that "it is much more of a forest species than any of the other King Crows. It also occurs in clearings and occasionally in gardens. Its notes and habits are much the same as those of the other species; and like them it is fond of perching on the top of some dead tree, or other commanding station from which it constantly makes short sallies after passing insects. It is always seen singly."

**165. *Buchanga cærulescens*, Linn, *Syst. Nat.* i. p. 134; *Sharpe, Cat. B. Br. Mus.* iii. p. 252. *Dicrurus cærulescens*, *Vieill. N. Dict. d'Hist. Nat.* ix. p. 587; *Ferd. Madras Journ.* x. p. 239; *Bly. Ann. and Mag. Nat. Hist.* xiv. p. 47; *Ferd. B. Ind.* i. p. 432, No. 281.—The WHITE-BELLIED DRONGO.**

Whole upper plumage, including wings and tail, slaty grey, with a metallic steel blue gloss; chin, throat and breast ashy brown, glossed with steel blue on the sides of the neck and sides of the upper breast; abdomen and lower tail coverts white; under wing coverts ashy brown and slightly glossed; thighs glossy black; bill and feet black; iris lake-red.

*Length.*—9·5 to 9·6 inches; wing 4·75 to 5·05; tail 3·65; to tip of outer feathers 5; tarsus 0·8; culmen 0·95.

*Hab.*—India generally. Recorded from Malabar, the slopes of the Neilgherries, Madras, Nellore, Central India, Calcutta, Central Provinces, Behar, Kattyawar, N.-W. Himalayas to Nepaul.

The White-bellied Drongo affects well-wooded districts generally. It is seldom seen in clearings, groves, or near habitations. Like other species of *Buchanga*, it seizes its prey on the wing, and has the usual sweet song and harsh cry of the family.

Gen. *Dissemuroides*.—Hume.

Outer tail feathers produced and recurved at tip; forehead with a few bristles.

**166. *Dissemuroides andamanensis***, Hume, *Str. F.*, 1874, p. 211; Sharpe, *Cat. B. Br. Mus.* iii. p. 255. *Dicrurus andamanensis*, Tytler and Beaven, *Ibis*, 1867, p. 322; Gray, *Hand-l. B.* i. p. 285; Ball, *J. A. S. B.* xii. p. 282. Buchanga (*Dicrurus*) *andamanensis*, Ball, *S. F.*, 1873, p. 66. *Dissemuroides dicruriformis*, Hume, *Str. F.*, 1873, p. 408; *id.*, 1874, p. 211; Sharpe, *Cat. B. Br. Mus.* p. 255.—THE ANDAMAN DRONGO.

*Adult Male*.—General colour black, with a slight purplish gloss on the back; wings glossed with metallic steel-green, as also the secondaries; quills brown, with reddish brown shafts, and slightly glossed with greenish at the base of the outer web; tail black, with a steel green gloss on the outer web; lores, sides of face, and under surface deep black with a slight purplish gloss on the breast; under wing coverts like the breast, but tipped with white; bill and legs black; iris hair-brown, sometimes very deep and almost blackish.

*Length*.—11·25 to 12·0 inches; wing 5·0 to 5·25; tail 7·0 to 8·25; bill from gape 1·2 to 1·35; tarsus 0·8 to 0·9.

*Adult Female*.—Rather smaller than the male.

*Hab.*—Andaman and Great Cocos Islands.

I have united Hume's *D. dicruriformis* with this species, as I cannot find any good character which would serve to give it specific rank. It is certainly a larger bird, but I think with Mr. Sharpe that it can only be looked upon as a race. The comparative measurements of *Andamanensis* and *dicruriformis* are as under:—

	Length.	Wing.	Tail.	Tarsus.
<i>dicruriformis</i> .....	13·25 to 14·6	5·6 to 5·9	8·75	0·9 to 1·0
<i>Andamanensis</i> ...	11·25 to 12	5 to 5·25	7 to 8·25	0·8 to 0·9

Gen. *Bhringa*.—Hodgs.

Bill moderately depressed at base; culmen curved, hooked and notched at the tip; rictal bristles feeble; base of bill covered with recurved feathers. Nostrils covered with bristles; 4th quill longest. Tail nearly even, forked, the outer feather ending in a racket.



**167. *Bhringa remifer*, Tem. Pl. Col. 178; Jerd. B. Ind. i. p. 434; Sharpe, Cat. B. Br. Mus. iii. p. 257; Hume and Davison, Str. F. vi. p. 218; Tweed., Ibis, 1878, p. 80; Hume, Str. F. viii. p. 92; Oates, B. Br. Burm. i. p. 224. *Bhringa tectirostris*, (Hodgs), Hume, Nests and Eggs, p. 193; id. Str. F. iii. p. 101.—THE LESSER RACKET-TAILED DRONGO.**

Whole plumage black, with a brilliant metallic gloss, the feathers of the crown spangled with metallic-violet; also those of the throat and breast; under tail coverts washed with steel green; abdomen blackish grey with a steel gloss; outermost tail feathers produced into a long shaft with an elongated black spatule at end. Bill and legs black; iris red.

*Length*.—9·6 to 10·5 inches; wing 5·25; tail to tip of outer feathers 12 to 14.

*Hab.*—Nepaul, N.-W. Himalayas, Burmese Provinces, Tennaserim and Java. Sparingly distributed over Pegu, and confined to deep forests. According to Jerdon, it is also found in Assam. At Darjeeling it is found in the warmer valleys. Breeds from April to June and July; nest a loose cup-shaped structure. Eggs, 3—4, reddish white with reddish brown spots and blotches. Habits the same as other Drongos.

#### Gen. *Dissemurus*.—*Gloger*.

Characters the same as in *Bhringa*. Crest more full and developed, and falling back on the forehead; tail forked, the outermost pair with the outer web gradually thinning off; shaft bare for some distance, and terminating in a racket.



**168. *Dissemurus paradisicus*, Linn, Syst. Nat. i. p. 172; Bl. Wald. B. Burm. p. 128; Armstrong, Str. F. iv. p. 321; Sharpe, Cat. B. Br. Mus. iii. p. 258; Tweed., Ibis, 1878, p. 80; Hume and Davison, Str. F. vi. p. 219; Legge, B. Ceylon, p. 399; Hume, Str. F. viii. p. 192; Bingham,**

- Str. F.* ix. p. 174; *Oates, Str. F.* x. p. 203; *id. B. Br. Burm.* i. p. 225.  
 • *Dicrurus platurus*, *Vieill. N. Dict. d'Hist. Nat.* i. p. 588. *Edolius Rangoonensis*, *Gould. P. Z. S.*, 1836, p. 50. *Edolius grandis*, *Gould. P. Z. S.*, 1836, p. 5. *Chibia malabaroides*, *Hodgs. Ind. Rev.* i. p. 325. *Dicrurus retifer*, *Ferd. Mad. Journ.* x. p. 241. *Edolius cristatellus*, *Bly. J. A. S. B.* xi. p. 171. *Edolius brachyphorus*, (*Temm.*) *Bonap. Consp. Av.* i. p. 351. *Edolius paradiseus* (*Linn.*) *Ferd. B. Ind.* i., p. 435. *Edolius malabaricus*, (*Scop.*) *Ferd. B. Ind.* i. p. 437. *Dissemurus malabaroides* (*Hodgs.*), *Hume, Nests and Eggs, Ind. B.* p. 123; *id., Str. F.* iii. p. 101. *Dissemurus grandis*, (*Gould.*), *Hume, Str. F.* viii. p. 92; *Oates, Str. F.* viii. p. 166; *id., Oates, B. Br. Burm.* i. p. 225.—THE GREAT RACKET-TAILED DRONGO.

Whole plumage black, glossed with steel blue, except on the inner webs of the quills, the throat, lower abdomen and vent. The outer pair of feathers in both sexes lengthened and furnished with a racket; in the young the gloss is less developed, and the under wing coverts are tipped with white; bill, legs and feet black; irides red (brown in the young).

*Length.*—14 inches; wing 6·6; tail 7; outer feathers 13 to 15; tarsus 1·15; culmen 1·3.

*Hab.*—The Indian Peninsula, Ceylon, Andaman Islands, Indo-Chinese and Indo-Burmese Countries, the Malayan Peninsula, Java and Borneo; also Sumatra, Cochin-China and Nepal. It is recorded as occurring from the Himalayas to the Eastern Ghats as far South as N. L. 15°; also at Nellore, Goomsoor, Central and S. India, N.-W. Provinces, Lower Bengal, the Sunderbuns, Assam, Sylhet, Burmah and Tennaserim. Mr. Sharpe has very carefully gone into the question, whether all the species hitherto described as distinct, were so or not. *Brachyphorus* from Borneo, appeared to be a distinct form, but there was not sufficient ground upon which it could be specifically separated. The specific characters held to constitute a species were the length of tails, the size of the rackets on the outer feathers, and the development of the crest. These Mr. Sharpe has carefully studied, and the outcome is that he has united all under one species (*Dissemurus paradiseus*). He says that after a careful study of what has been written on the subject of these racket-tailed Drongos, and after comparison of the series in the British Museum collection, he has arrived at the conclusion that between *D. malabaroides* (a very full-crested form) of the Eastern Himalayas and *D. brachyphorus* of Borneo, an unbroken chain of races exists. Blyth came to the same conclusion in 1849, Mr. Sharpe adds, that he does not see that the labors of ornithologists have tended to upset this conclusion. His review of these species ends with the following remarks;—"Finding it, however, quite impossible to define exact specific characters for these supposed species, I have united them under one name, and merely keep the specimens arranged under different headings; for I fully believe that a larger series will only show more connecting links, and that it will

be found more and more impossible to give specific characters for those differentiated under the various titles mentioned."

The large racket-tailed Drongo affects forests, and well-wooded districts. Like the Drongos in general it selects the extreme end of a bough or branch for its perch, which it now and again leaves for the purpose of capturing a passing insect. It always returns to the same perch. Its song is said to be rich and mellow, especially during the breeding season. The nest is built in a fork on the very tip of a bough on the highest tree in the place, and almost inaccessible. In structure it does not differ from that of its congeners. The eggs, usually three in number, are white or pinkish, marked with reddish brown.

Gen. *Irena*.—Horsf.

Bill stout, of moderate length; culmen rather elevated and slightly arching from the base, tip notched; nostrils covered with short plumes. Wings with the 4th quill longest; tarsus short.



**169. *Irena puella*.** *Lath. Ind. Orn.* i. p. 171; *Jerd. B. Ind.* ii. p. 105; *Stol. J. A. S. B.* xxxix. p. ii. p. 318; *Wald. Ibis*, 1871, p. 170; *Hume, Nests and Eggs*, p. 298; *Hume, Str. F.* ii. p. 226; iii. p. 130; *Bl. and Wald. B. Burm.* p. 138; *Armstrong, Str. F.* iv. p. 326; *Bourdillon, Str. F.* iv. p. 400; *Wardlaw-Ramsay, Ibis*, 1877, p. 467; *Hume and Dav. Str. F.* vi. p. 328; *Hume Str. F.* viii. p. 99; *Legge, Birds, Ceylon*, p. 466; *Sharpe, Cat. Birds, B. Mus.* vi. p. 177; *Bingham, Str. F.* ix. p. 184; *Oates, Str. F.* x. p. 211; *Oates, B. Br. Burm.* p. 209.—THE FAIRY BLUE BIRD.

Whole upper plumage, including the lesser wing coverts, brilliant glistening cobalt blue. Sides of the head, quills and tail deep black; the secondaries and central tail feathers with a shade of blue; lores, feathers over the eye, sides of neck and entire under surface, also the thighs and under wing coverts, black; under tail coverts purplish black.

The female has the whole of the upper plumage dull prussian blue, brighter on the rump and upper and under tail coverts; primaries and secondaries dark brown, also the greater wing coverts, primary coverts and tertiaries, but these with a bluish tinge on their outer webs.

Bill and legs black; iris crimson.

*Length*.—10 to 10·3 inches; wing 5; tail 4·2 to 4·4; tarsus 0·85; culmen 0·95 to 1.

*Hab.*—The Malabar Coast, Southern India generally, and Travancore; also Assam, Arrakan, and British Burmah. It also occurs in Siam and Cochin-China, in the Khasia Hills, Cachar, Ceylon and the Andamans.

The Fairy blue bird affects evergreen, dense, woody forests, and is more abundant in the hilly tracts than in the plains. It is found in the Pegu Hills down to Rangoon; in the Irrawaddy delta, and according to Davison, in all the evergreen forests of Tennaserim. It is generally found in pairs, but parties of 6 or 7 are not uncommon. Capt. Bingham found the nest in Tennaserim. It was cupshaped in form, and in structure like that of a Drongo. Eggs, two, greenish white, marked with brown.

### Family.—PRIONOPIDÆ.

Bill with a notch in the upper mandible. Nostrils more or less covered with plumes. Tail moderate, rounded or square, and of 12 feathers.

### Sub-family.—PRIONOPINÆ.

Bill higher than broad, wings short, not reaching the tip of the tail.

### Gen. *Tephrodornis*.—Swainson.

Bill moderately hooked and notched at tip; a few rictal bristles, nostrils covered with procumbent plumes; wings moderate; tarsus and toes short. Outer toe longest and slightly syndactyle.

**170. *Tephrodornis pondiceriana*, Gmel. S. N. i. p. 939; Bly. J. A. S. B., 1846, p. 305; Jerd. B. Ind. p. 410, No. 265; Murray, Vert. Zool., Sind, p. 123; Hume, Str. F. i. 435; Murray, Hdbk., Zool., &c., Sind, p. 134. *Tephrodornis indica*, Cat. Hodgs. Coll. B. M. p. 90. *Tentheca leucura*, Hodgs. Ind. Rev. i. p. 447.—THE COMMON WOOD-SHRIKE.**

Head, hind neck, scapulars, back and rump ashy brown; the feathers of the rump edged white; superciliary streak fulvous white; a dark brown streak from the nostrils to the ear coverts; upper tail coverts dark brown; wings dusky brown; tail dark brown, with the two outer feathers white, and margined dusky on the outer web at the tip, basally dark brown; chin and throat white; breast and upper abdomen greyish brown; lower abdomen, vent and under tail coverts white; bill dusky horny; legs plumbeous; irides greenish yellow.

*Length*.—6·5 to 7 inches; wing 3·5; tail 2·75; bill at front 0·62.

*Hab.*—India generally, Burmah, Assam, Bengal, extending to the foot of the Himalayas. Occurs in the Deccan, North Guzerat, Kutch and Kattiawar. In Sind it is a seasonal visitant, arriving in April, breeding and leaving the Province early in September. I obtained nestlings in May and June, and during July and August. Of the eight specimens collected, five were young birds. None were seen in September. Its presence is easily known by a very pretty, unmistakable little song, quite unlike that of any of the *Laniinae*.

**171. *Tephrodornis pelvica*, Sharpe, Cat. B. Br. Mus. iii. p. 276.** *Tentheca pelvica*, *Hodgs. Ind. Rev.* i. p. 447; *Tephrodornis pelvica*, *Jerd. B. Ind.* i. p. 409, No. 263; *Hume, Str. F.* iii. p. 92; *Bl. B. Burm.* p. 122; *Hume and Dav. Str. F.* vi. p. 205; *Hume, Str. F.* viii. p. 91.—The NEPAUL WOOD-SHRIKE.

Above pale ashy brown; forehead whitish; head, nape and hind neck cinereous grey; rump greyish white, barred with brown near the tip; upper tail coverts white, the longer ones brown. Tail brown, with a rufous tinge, the shafts reddish and the tips whitish; quills ashy brown, rufous shafted, all edged and tipped brighter; lores, ear coverts and feathers under the eye black; sides of face, sides of neck, and under surface white, tinged with pinkish on the breast.

*Length.*—8·5 inches; wing 4·5; tail 3·5; tarsus 0·85; culmen 0·95 to 1.

*Hab.*—N.-W. Provinces of India, Oudh, N.-W. Himalayas, Sikkim, Arrakan, Assam, the Indo-Burmese countries, Tipperah, Cachar, and from Bhootan to Nepaul. Davison found it generally distributed over Tennaserim, and Oates says over the whole of Pegu.

The Nepaul or Hodgson's Wood-Shrike frequents thick evergreen forests in preference to other localities. It feeds on insects as grylli, mantises, crickets, grubs and caterpillars, which it picks off the leaves.

**172. *Tephrodornis sylvicola*, Jerd. Madr. Journ. x. p. 236; Bly, J. A. S. B. xv. p. 304; Bp. Consp. i. 357; Jerd. B. Ind. i. p. 408.**—The MALABAR WOOD-SHRIKE.

Above slaty cinereous; rump, white; wings, tail and some of the upper coverts dusky brown; upper tail coverts white; the longer ones dusky brown; nasal plumes, lores, feathers under and above the eye, and ear coverts black, more defined than in *pondiceriana*; cheeks and entire under surface of body white. Eyebrow faintly indicated. Bill blackish; legs plumbeous; iris wax yellow.

*Length.*—8·5 inches; wing 4; tail 4·4; tarsus 0·8; culmen 0·8.

*Hab.*—Southern parts of the Indian Peninsula. Jerdon says it is only found in the forests of the Malabar Coast, and ascends the Neilgherry and other ranges. It climbs and hops about the larger boughs of trees, picking insects of various kinds off the leaves. Found in small flocks.



**173. *Tephrodornis grisola*.** *Blyth, J., A. S. B.* xii. p. 180; *Jerd. B. Ind.* i. p. 411, No. 266; *Bly. Ibis*, 1865, p. 43. *Hyloterpe grisola*, *Wald. Ibis*, 1874, p. 141. *Muscitrea cinerea*, *Bl. J., A. S. B.* xvi. p. 121; *Hume, Str. F.* v. p. 101. *Hyloterpe philomela*, (*Mull.*) *Cat. Arch. f. Wat.* 1847, p. 322. *Muscitrea grisola*, *Hume and Dav. Str. F.* vi. p. 206; *Hume, Str. F.* viii. p. 91; *Oates, B. Br. Burmah*, i. p. 257.—THE GREY WOOD-SHRIKE.

Lores, head from the forehead to the nape dull earthy brown; back, rump, scapulars, upper tail and upper wing coverts rufous brown; wings and tail hair brown, the quills of the former margined exteriorly with rufous brown. Chin, throat, breast and flanks pale brown; abdomen, vent, under tail and under wing coverts pure white. No white supercilium as in *pondiceriana*. Bill dark brown; iris reddish brown; legs plumbeous; claws pale horn colour.

*Length*.—6·5 to 6·6 inches; wing 3·25; tail 2·5 to 2·6; tarsus 0·84; culmen 0·8.

*Hab.*—Eastern side of the Bay of Bengal, from Arrakan down to Malayana, also the Andaman Islands and Java. It is recorded from Bengal, also from Pegu. It has also been found in Sumatra and Borneo. According to Davison it is rare in Tennaserim.

### Gen. *Hemipus*.—Hodgs.

Characters as in *Tephrodornis*; bill more depressed, and wider at base; 3rd quill nearly equal to 4th.

**174. *Hemipus picatus*,** *Sykes, P. Z. S.* 1832, p. 25; *Sharpe, Cat. B. Br. Mus.* iii. p. 307; *Jerd., B. Ind.* i. p. 412; *Hume, Nests and Eggs*, p. 178; *id. Str. F.* i. p. 435; iii. p. 93; *Hume and Davison*, vi. p. 207; *Hume, Str. F.* viii. p. 91.—SYKES'S PIED SHRIKE.

Whole upper plumage, with the lores and ear coverts glossy black; rump feathers broadly tipped with white; chin, vent, and upper tail coverts pure white; the remainder of the lower plumage pale vinaceous; the cheeks and the sides of the neck white, produced so as to form an indistinct white collar round the neck; lesser wing coverts black; median coverts black, broadly tipped with white, the outer greater coverts black; primary coverts and quills black, the later secondaries broadly edged with white; tail black, all but the central feathers tipped with white, which extends over the whole outer web of the outermost feathers; bill black; iris hazel; eyelids plumbeous; legs plumbeous brown.

*Length*.—5·4 inches; wing 2·5; tail 2·4; tarsus 4·5; culmen 7.

*Hab.*—N.-W. Provinces, Oudh, Central India, Concan, Deccan, South India, Travancore, Ceylon, British Burmah and Tennaserim.

The little Pied Shrike is generally seen in small parties of five or six, wandering about from tree to tree, every now and then darting on insects in the air. It has a pleasant song, which, however, is not often heard. It frequents thick forests, and like the Drongo, perches on the outer branches of a tree. According to Davison it also searches the leaves like a Wood Shrike. A nest taken by Mr. Davison at Ootacamund, was a small shallow cup made of grass and roots, covered with cobwebs and lichens and sparingly lined. It was placed on a branch of a tall tree and contained three eggs, which were pale greenish marked with umber-brown. Jerdon says the markings of the eggs he obtained at Darjeeling were a few rusty red spots.

**175. *Hemipus obscurus*, Horsf. Tr. Linn. Soc. xiii. p. 146; Bly. J. A. S. B. xv. p. 305; id. and Wald. B. Burm. p. 122; Jerd. B. Ind. i. p. 413; Sharpe, Ibis, 1877, p. 20. Tephrodornis obscura, Gray, Gen. B. App. p. 13.—HORSFIELD'S OBSCURE OR PIED SHRIKE.**

Wings, tail and the whole upper plumage glossy greenish black, except the shorter upper tail coverts and the tips of the feathers of the rump, which are white; outer tail feathers edged on either side with white. Cheeks, sides of neck and entire throat pure white; breast pinkish ashy, rest of under surface pure white, the flanks washed with greyish; thighs whitish.

The female is similar to the male, but the black is replaced everywhere by brown.

Iris brown; bill and legs black.

*Length*.—5·5 to 5·7 inches; wing 2·6; tail 2·25; tarsus 0·5; culmen 0·6.

*Hab.*—Java, Sumatra, Borneo, Malacca, ranging into Burmah and Tennesseum.

**176. *Hemipus capitalis*, McClell. P. Z. S., 1839, p. 157; Blyth, Cat. B. Mus. A. S. B. p. 154; Godwin Austen, J. A. S. B., 1870, p. 99; Jerd. Ibis, 1872, p. 116. *Hemipus picatus* (nec Sykes) Gray, Cat. Mam., &c., Nepal; Bly. and Wald B. Burm. p. 122.—THE BROWN-BACKED PIED SHRIKE.**

General colour above brown, the lower back with a distinct white bar across it, caused by the feathers being white with brown subterminal bars; rump pure white; upper tail coverts glossy black; some of the outer ones with tiny white tips; head and nape glossy greenish black; chin and cheeks white; throat, breast and sides of body drab-brown; abdomen under tail and under wing coverts white; thighs brown; wing coverts glossy greenish black, the least series washed with the same brown as the back, the median and greater series broadly edged with white, forming a wing bar; quills black, the secondaries externally margined with white, in continuation of the bar formed by the coverts; tail glossy black, all but the two central feathers tipped with white, increasing very much in extent towards the outermost, which are edged with white along the outer web for all but the basal third; bill and legs black; iris sienna yellow.

*Length*.—5·3 inches; wing 2·5; tail 2·55; tarsus 0·55; culmen 0·6. (Sharpe.)

The adult female differs from the male in having the head brown, only a little darker than the back; wings brown; tail blackish brown, the markings on both these exactly as in the male. (Sharpe.)

*Hab*.—The N.-W. Provinces, Himalaya Mountains, ranging into Burmah. Sharpe records it from the Himalayas, Nepal, Darjeeling, and Kakhien Hills.

### Gen. *Hypocolius*.—*Bp*.

Bill hooked at tip, and notched; 3rd quill longest; feet scutellated; tail long, subcuneate.

**177. *Hypocolius ampelinus*.** *Bonap. Consp.* i. p. 336 (1850); *Hume, Str. F.* iii. 358; v. 349; *Murray, Hdbk. Zool. &c., Sind*, p. 135. *Ceblypyris isabellina*, *Heugl. Syst. Uebers. Vog. N. O. Africa; Sitzungaber. K. Akad. Wien.* xix. p. 284, No. 308; *Ibis*, 1868, pp. 181, 182, pl. v.

Upper parts generally ashy grey, with a slight rufous tinge on the head, which is more marked on the frontal portion, where the feathers are rather lighter and more isabelline in tint; feathers above the nostrils, lower parts of the lores, all round the eye, and a band round the nape black, so that there is a black ring all round the head, except in the centre of the forehead; ear coverts dark silver grey, looking black in some lights in the preserved skin; primary quills black, with rather long white tips, the tip on the first long primary being wholly, and on the second partially, dusky; outer secondaries black with grey edges, the black diminishing in amount, until it disappears completely on the feathers near the body; tail feathers the same colour as the back with black tips about three-quarters of an inch long; chin and throat isabelline; breast grey, like the back; abdomen and lower tail coverts pinkish isabelline; under wing coverts light grey; legs flesh-coloured; bill horn coloured, dusky towards the tip.

*Length*.—Before skinning 10·25 inches; wing 4·2; tail (from insertion of central feather) 4·75; tarsus 1; midtoe and claw 0·95; wing short of end of tail 3·6; culmen (point of bill from rise of skull) 0·85; bill from front 0·5; from gape 0·9.

The female is described by Heuglin as slightly smaller, isabelline grey in colour, with an olivaceous tinge, darker above than below, wanting altogether the black marking on the head, and having much less distinct black tips to the tail feathers. The ends of the primary quill feathers, the two first excepted, blackish with white margins.—*Blf. Str. F.* iii. p. 358.

*Hab*.—Abyssinia, Bushire (Persian Gulf) and Nal in Khelat. Rare in Sind. A single specimen was obtained by Mr. Blanford on the lower hills, on the eastern flank of the great Kirthur Range, which forms the boundary between Sind and Khelat.

Gen. **Platylophus**.—*Swainson*.

Occipital crest long.

**178. *Platylophus ardesiacus*.** *Cat. Mus. Hein. Th.* i. p. 219; *Bp. Consp. Av.* i. p. 374; *Sharpe, Cat. B. Br. Mus.* iii. 317; *Hume and Dav. Str. F.* vi. p. 380; *Hume, Str. F.* viii. p. 105; *Oates, B. Br. Burmah*, i. p. 410.—The CRESTED JAY.

Whole head, crest, chin, throat and entire lower plumage black; back, scapulars, wings and wing coverts, rump and upper tail coverts rich olive brown; tail dark brown; a large patch of white on either side of the neck, two white patches of the same at the back of the eye. The young is paler brown, the forehead greyish, lores whitish, the white patch behind the eye and on the neck, margined with blackish; wings reddish brown; under surface of body slaty; bill and legs black; irides reddish brown.

*Length*.—11 inches; wing 5·5; tail 5; tarsus 1·3; culmen 1·35.

*Hab*.—The Malay Peninsula, and Tennaserim.

The Crested Jay has been met with in Tennaserim by Mr. Davison, and Oates procured several specimens at Malewoun. Davison says it occurs only in the evergreen forests of the extreme south of Tennaserim. It is a restless bird flying from tree to tree and branch to branch incessantly, sometimes close to the ground; and sometimes high up. Even when seated it appears to be unable to keep the body quiet, but keeps bobbing and bowing. It always keeps its crest fully erect, and as Dr. Stolickza remarked, it looks like a gigantic *Lophophanes*. Its note is very peculiar, and once heard not easily forgotten. It is a sharp, clicking metallic rattle. The food is believed to consist entirely of insects, such as beetles. It is almost always seen in pairs.

*Platylophus coronatus* is recorded from Southern Borneo.

Gen. **Cochoa**.—*Hodgs*.

Bill short, wide at base, depressed, straight, the tip slightly bent and notched. Nostrils covered with a few incumbent bristles; wings long, and pointed; 1st quill minute, 2nd and 3rd graduating; 4th quill longest; tail moderate; tarsi short; head subcrested.

**179. *Cochoa viridis*,** *Hodgson, J. A. S. B.* v. 359; *Blyth, Cat. B. A. S. B.* 1174; *Gould, B. Asia.* pt. i. pl. 12; *Jerd. B. Ind.* ii. p. 243, No. 608; *Sharpe, Cat. B. Br. Mus.* vol. iv. p. 1.—The GREEN THRUSH-TIT.

Head, nape and back of neck fine cobalt blue; supercilium and ear coverts black, tinged with blue; a small nude space behind the eye; body above dull blue green; lesser wing coverts green, with black lunules; the greater coverts pale blue externally, green on the inner web, and tipped with black; the primary coverts blue basally and tipped with black; primaries

and secondaries black, basally blue banded; tail dull cobalt-blue, tipped with black; under surface of body green, the throat and lower abdomen tinged with blue. Bill black; legs fleshy brown; irides brown.

*Length*.—10·75 to 11 inches; wing 5·6 to 5·7; tail 4·75; culmen ·75; tarsus 1·0.

The female is paler in color throughout, and the young have the feathers of the upper surface lunated with black; the wings paler in colour.

*Hab*.—The N.-W. Provinces, Nepaul and Sikkim.

The Green Thrush-Tit, although found occasionally about Darjeeling, is very rare, but not so at higher altitudes. It is fairly numerous about Nepaul and Sikkim, and according to Jerdon, Major Tickell obtained specimens near Kurseong during winter.

**180. Cochoa purpurea**, *Hodgs. J. A. S. B.* v. p. 359; *Jerd. B. Ind.* ii. p. 243, No. 607; *Hume, Nests and Eggs*, p. 388; *Hume and Davison, Str. F.* vi. p. 367; *Hume, Str. F.* viii. p. 104; *Sharpe, Cat. B. Br. Mus.* iv. p. 3; *Oates, B. Br. Burm.* i. p. 136.—The PURPLE THRUSH-TIT.

Head and nape lavender-blue; lores and sides of the head, including the ear coverts black; back, rump, upper tail coverts and the lesser wing coverts dull or ashy purple; median and greater wing coverts bluish purple; primaries black, all except the first two, and the primary coverts with the basal third of the outer webs lavender-blue; the basal two-thirds of the outer webs of the secondaries and all the tertiaries bluish purple; the terminal third of the outer webs of the secondaries; and their entire inner webs black; tail bluish purple, tipped with black. Entire under surface brownish purple.

The female is similar to the male except that where the male is purple she is reddish brown, and the wing spot is duller. The young is not unlike the female, but have the feathers edged with whitish and the under surface reddish brown, barred with dusky. Bill black; legs and feet dark or plumbeous brown; irides dark brown.

*Length*.—10·5 to 10·9 inches; wing 5·5; tail 4·2 to 4·5; culmen 1· to 1·2; tarsus 1· to 1·1.

*Hab*.—The Himalayas to Nepal, Kumaon and Sikkim; also British Burmah. The Purple Thrush-Tit is rare about Darjeeling. Davison procured it on the higher slopes of the Mooleyit Mountains in Tennaserim, and Capt. Bingham got it in the Thoungyeen Valley. According to Hodgson it is common to all the three regions of Nepaul. He remarks "They are shy in their manners, adhere exclusively to the woods, live solitarily or in pairs, breed and moult but once a year, nidificate on trees and feed almost equally on the ground and on trees. He adds that he has taken from their stomachs several sorts of stony berries, small univalve mollusca, and sundry kinds of aquatic insects. The nest is strongly built of moss and lined with lichens. Eggs of a greenish colour, spotted and blotched with brown.

Gen. **Artamides**.

Bill of moderate length, hooked and slightly notched; the culmen curved; the base as wide nearly as in the Genus *Graucalus*; rictal bristles well developed; 4th quill longest, 3rd and 5th equal.

**181. Artamides Dobsoni**, (Ball.) *Sharpe, Cat. B. Br. Mus.* iv. p. 9. *Graucalus Dobsoni*, *Ball. Str. F.* i. p. 66; p. ii. 206.—DOBSON'S THRUSH-TIT.

Point of the forehead, lores, a stripe under the eyes and the ear coverts black; whole of the front, top, and back of the head, back and sides of the neck, scapulars and lesser wing coverts, rump and upper tail coverts an uniform dark iron grey, slightly paler on the rump; quills, greater and median coverts dark hair brown, paler on the inner webs, every feather with a *very* narrow pale edging, grey on the coverts, pale brown on the tips of the primaries and only at all conspicuous on some of the primaries above the emarginations, and some of the later secondaries towards their tips. Tail black, browner towards the base, outer tail feathers pale brown on the outer webs and at the tip, which again is narrowly tipped with white; the next pair on either side tipped with brownish white, and the 3rd pair with only a trace of this white tip. Chin, throat, and upper breast pale iron grey; lower breast, entire wing lining, axillaries and entire lower parts white, narrowly, closely and strongly barred with blackish brown.

The female is like the male, but the point of the forehead is iron grey, not black; and the chin, throat and upper breast are barred like the under surface.

The young have the whole chin, throat, and breast strongly tinged with ferruginous; the tertiaries, secondaries and later primaries comparatively broadly margined, and tipped with pale rufous or rufescent white; the tertiaries and later secondaries with also a rufous spot near the tips; a faint rufous supercilium from the nostrils over the eyes; lores dusky with tiny white spots; cheeks dusky; the feathers white shafted. Bill, legs and feet black; irides crimson lake, tinged with brownish in the young.

*Length*.—11·5 to 12·25 inches; wing 6·1 to 6·42; tail 5 to 6; bill at front 0·95 to 1·06. (Hume.)

*Hab.*—The Andaman Islands; probably also in Burmah.

Mr. Davison says, "this species unlike *G. macei* is exclusively a forest bird, never venturing out in the open fields; it usually is seen in pairs keeping moderately high up in trees; its flight is weaker than that of *G. macei* and undulating, seldom extended, except from branch to branch or from one tree to another. It is not uncommon at Mount Harriet and other well-wooded portions of the settlement."

Gen. **Graucalus**.—*Cuv.*

Bill of moderate length, strong and wide at base, the culmen curved, hooked and slightly notched; rictal bristles not much developed; wings long and pointed; tail moderate, slightly rounded.

**182. Graucalus Macii**, *Less. Traite* p. 349; *Jerd. B. Ind.* i. p. 417, No. 270; *Wald. Ibis*, 1872, p. 311; *Blanf. J. A. S. B.* xli. pt. ii. p. 156; *Hume, Nests and Eggs*, p. 181; *id. Str. F.* ii p. 204; *Ball, Str. F.* ii. p. 400; *Bl. B. Burm.* p. 123; *Anderson, Yunnan Exped.* p. 647; *Legge, B. Ceylon*, p. 360; *Sharpe, Cat. B. Br. Mus.* iv. p. 34; *Hume, Str. F.* viii. p. 91; *Scully, Str. F.* viii. p. 267. *Graucalus layardi*, *Bl. Ibis*, 1866, p. 35; *Jerd. Ibis*, 1872, p. 117; *Legge, Ibis*, 1875, p. 287; *Murray, Vert. Zool, Sind*, p. 124.—THE INDIAN CUCKOO-SHRIKE.

Head, neck, back, rump, upper tail coverts and scapulars french-grey; primaries and their coverts black, externally edged with whitish; secondaries french-grey on the outer webs, and margined and tipped whitish; the inner webs dusky; tail with the two centre feathers grey, tipped with white; the rest black, broadly tipped with white. A narrow frontal line, lores, below the eye, and at the gape black. Sides of face, and ear coverts darkish grey beneath; the neck and breast french-grey; upper abdomen lighter, with numerous dull white transverse lines; lower abdomen, vent and under tail coverts white; under wing coverts and axillaries white, with a few cross lines of grey at the edge of the wings; bill blackish; irides rich lake; legs plumbeous.

The female is paler in colour throughout and has not the black on the face; generally there are present nearly obsolete barrings on the under surface. The young have the upper plumage tipped and margined with pale ferruginous, and the under surface nearly pure white.

*Length*.—11·8 to 12 inches; wings 6·5 to 7; tail 5 to 6; tarsus 1 to 1·05; bill at front 1.

*Hab.*—The Indian Cuckoo-Shrike is found over all India, from the Himalayas to the extreme South. It is abundant in Southern India and Ceylon, spread over the whole of British Burmah, recorded from Nepaul, Pegu, Assam, and Port Blair; also the N.-W. Provinces, Punjab, Oudh, Bengal Rajpootana, Kutch, Kathiawar, Jodhpoor, North Guzerat and Travancore. Blyth records it from Arrakan, Mr. Davison from Tennasserim, and according to Dr. Tiraud it is found in Cochin-China. It affects thin forest, jungles, gardens, orchards, avenues and thick growths of high bushes. Feeds chiefly on insects as caterpillars, mantides, locusts, and grasshoppers, and probably also small fruit. Jerdon says it is rather a shy bird, flying before you from tree to tree uttering as it alights two or three rather sweet and mellow notes, but it has also a very harsh rattling scream. It flies in an easy undulating manner, with but few flappings of its wings. Its flesh is said to be eaten by

the natives. Breeds almost everywhere about the beginning of the rains. Nest usually placed in the fork of a lofty branch of a tree, constructed of fine twigs and grass, cup-shaped in form. Eggs three, of a greenish colour, marked with spots and blotches of brown and pale purple.

Gen. **Campophaga**.—*Vieill.*

Bill shorter than in *Gracula*, broad at base, compressed at tip and notched; rictal bristles absent or a very few; nostrils partly concealed; wings long; the 3rd and 4th quills equal and longest.

**183. *Campophaga lugubris***, *Sund. Ind. Rev.* i. p. 328; *Sharpe, Cat. B. Br. Mus.* iv. p. 65. *Volvocivora melaschistos*, (*Hodgs.*) *Jerd. B. Ind.* i. p. 415, No. 269; *Str. F.* v. p. 205.—THE DARK GREY CUCKOO-SHRIKE.

Iron grey throughout, except on the quills and tail, which are dark brown, the latter tipped with white on all but the central tail feathers.

The young have the whole of the lower plumage dark brown, almost unicolorous from the chin to the vent. Nestlings only just fully fledged have the upper plumage barred with white. Bill and legs black; irides hazel-brown.

*Length*.—9·5 to 10 inches; wing 4·6; tail 5·25 to 5·5; culmen nearly 1·0.

*Hab.*—N.-W. Provinces, Oudh, Bengal to Nepal. Rare in South India. Habits and food those of the last. Hutton says it has a plaintive note which it utters repeatedly when searching for insects. Affects the more wooded districts, and is found in small parties on the higher branches generally, though it freely descends to the ground also to feed. According to him it is a summer visitor to Darjeeling and the hills, ascending up to 7,000 feet about the end of March, and breeding early in May. The nest is small and shallow, placed in the bifurcation of a small horizontal bough of some tall tree, and always high up; it is composed internally almost entirely of grey lichens and lined with bits of fine root fibres; it is completely covered on the outside with cobwebs. Eggs 2 in number, 7 × 6 in size, of a dull grey green, streaked with brown.

**184. *Campophaga intermedia***, *Hume, Str. F.* v. 205, viii. p. 91. *Campophaga saturata*, *Sharpe, Cat. B. Br. Mus.* iv. p. 66; *Oates, B. Br. Burmah*, i. p. 230. *Volvocivora saturata*, *Swinh. Ibis*, 1870, p. 242; *David et Oust. Qis. Chine*, p. 103.—SWINHOE'S CUCKOO-SHRIKE.

General colour dark slaty grey, paler below, the feathers of the crown with black shafts and the under tail coverts more or less fringed with white; lesser wing coverts like the back; remaining wing coverts and the whole wing deep glossy black; tail deep black, all the feathers tipped with white, broadly on the outermost, and decreasing in extent towards the middle rectrices.

The female is slightly paler in the adolescent stage, and a white patch is present on the fourth and fifth primaries. Bill and legs black; iris hazel-brown.

*Length*.—9·5 to 10 inches; wing 4·5 to 4·8; tail 4·5. (*Oates*.)



*Hab.*—British Burmah (Tennaserim) and Nepal. Hainan (Swinh.). Cochinchina (Tiraud). Mr. Davison found it all over the Tennaserim Division as far down as Mergui. It is, according to Oates, spread all over the Pegu Division where he found it, and *C. melanoptera* in much the same localities.

Swinhoe's Cuckoo-Shrike does not differ in its habits from the other species of the genus. All live almost entirely on insectivorous diet which they either pick off leaves, or capture on the ground.

**185. *Campophaga melanoptera*, Rupp. Mus. Senck. iii. p. 25; tab. ii. f. 1.; Sharpe, Cat. B. Br. Mus. iv. p. 67. *Campophaga melanoptera*, Bl. J. A. S. B. xv. p. 307. *Campophaga avensis*, Bl. Cat. B. Mus. As. Soc. Beng. p. 327. *Volvocivora avensis*, Bl. B. Burmah, p. 123; Hume, Str. F. iii. p. 93; v. p. 205; viii. p. 91.—BLYTH'S CUCKOO-SHRIKE.**

In every respect similar to *Campophaga intermedia*, except that the central tail feathers are washed with grey on the basal half, the vent and under tail coverts are pure white, and the white tippings to the tail feathers much broader.

The female is as pure grey above as the male, and the shafts of the feathers of the head are as black. Rump and upper tail coverts paler and indistinctly barred. Under surface greyish white, everywhere barred with ashy; primaries with a white patch basally; tail dark brown, the middle rectrices ashy; all the feathers tipped with white. Bill and legs black; iris hazel-brown.

*Length.*—9 to 9·5 inches; wing 4·3; tail 4·3 to 4·5; culmen 1; tarsus 9.

*Hab.*—British Burmah. Spread over the whole of Pegu. Common in Arrakan; also in Tennaserim, where Davison found it as far south as Moulmein.

**186. *Campophaga neglecta*, Hume, Str. F. v. p. 203; viii. p. 91; Sharpe, Cat. B. Br. Mus. iv. p. 68; Oates, B. Burmah, i. p. 232. *Campophaga polioptera*, Sharpe, Cat. B. Br. Mus. iv. p. 69, pl. ii. *Volvocivora neglecta*, Hume, Str. F. v. p. 203.—DAVISON'S CUCKOO-SHRIKE.**

*Male.*—In all respects the same as *Campophaga melanoptera*, but differs in having the upper parts a shade darker, and a white patch on the primaries. The female too is not unlike the female of *C. melanoptera*; the differences, if any exist, are so insignificant that really it cannot be separated from the latter. There is a difference in size, but when it is a remarkable fact that such differences are stretched in some families to as much as half an inch or more the same latitude should be permitted in the case of the Genus *Campophaga* with such nearly uniform colouring.

*C. melanoptera* has the wing 4·3; tail 4·3; length 9 inches.

„ *intermedia* „ 4·8; tail 4·5; „ 9·5 „

„ *neglecta* „ 4; tail 3·35; „ 8 „

Another species, which I do not admit, is *Campophaga innominata*, Oates, B. Br. Burmah i. p. 233. *Volvocivora Vidua*, (Hartl.) Hume, Str. F. v.

p. 206; vi. p. 508; viii. p. 91. Here again a paler colouring and size are allowed to make a species—wing 4·65 to 5·0.

Mr. Hume's remarks in regard to this latter are as follows :—

From the neighbourhood of Tavoy we have a series of *Volucivora*, which cannot be referred to either *V. melaschista*, *V. neglecta*, *V. intermedia*, or *V. culminata* or even *V. avensis*. They are paler than *V. intermedia*, and *à fortiori* than *V. melaschista* \* \* \* \* Surely some allowance must be made for the colouring of the different stages of the birds, their habitat, the situation they affect as well as the nature of such. Then again climatic influences and the time of year in which the specimens were collected. I certainly hold that all the species here referred *intermedia*, *melanoptera*, *neglecta*, and *innominata* are simply races or varieties of *C. lugubris* with wings ranging from 4·0 inches to 5·0.

#### Gen. *Pericrocotus*.—*Boie*.

Bill short, rather broad at base, and high; culmen slightly curved; wing long, 4th and 5th quills longest; tail long, lateral feathers graduated; tarsi and feet short and feeble.

Mr. Sharpe has properly, like most authors, placed this group of brightly coloured birds next to the *Campephaginæ*. The Minivets form a group of species very similar to each other; the males being for the most part clothed in black and red (vermilion red), and the females in dusky and yellow. They associate in small flocks and are always found on trees, actively hopping from branch to branch in search of insects, upon which they feed.

. 187. *Pericrocotus speciosus*, *Lath. Bly. Cat. B. A. S. B.* 1158; *Jerd. B. Ind.* i. p. 419, No. 271; *Stray F.* ii. p. 208; *Oates, B. Br. Burmah.* i. p. 236; *Sharpe, Cat. B. Br. Mus.* iv. p. 72. *Phœnecornis princeps*, *Gould, Cent. Him. B.* pl. 7.—THE LARGE MINIVET.

*Male*.—Head, neck, upper back, wings, and two central tail feathers, glossy black; lower back, rump, upper tail coverts and under wings coverts rich vermilion red; primaries black with a band of rich vermilion red across all but the first three; greater coverts black, very broadly tipped with vermilion; secondaries black, vermilion red at the base, the later ones with a vermilion spot near the tip of the outer webs; lateral tail feathers vermilion red.

The female has the head, neck, upper back and central tail feathers light ashy grey, tinged with greenish. Quills dusky black, with a deep yellow spot; four central tail feathers dusky, the outer pair tipped yellow, the others deep yellow with some blackish markings at the base; forehead, rump and upper tail coverts greenish yellow, also the whole lower plumage.

The young are like the female, but have the forehead tinged with orange. Bill and legs black; irides deep brown; eyelids grey.

*Length*.—9 inches; wing 4·25 to 4·5; tail 4·25; tarsus 9; bill from gape 0·5 to 0·8.

*Hab.*—Nepaul, the Himalayas down to the N.-W. Provinces, Oudh, Bengal, the Central Provinces, and Central India. Does not extend to Assam and British Burmah, as stated by Jerdon. The species found there, is the next, a slightly smaller bird, with some few ~~not~~ very material differences.

**188. *Pericrocotus elegans*, McLell. P. Z. S. 1839, p. 156; Hume, Str. F. iii. p. 95; Sharpe, Str. F. iv. p. 206; Hume, Str. F. v. p. 194; Anders. Yunnan Exped. p. 648; Sharpe, Cat. B. Br. Mus. iv. 73; Hume, Str. F. viii. p. 91; Oates, B. Br. Burmah, i. p. 236. *Pericrocotus fraterculus*, Stolicz. Ibis, 1870, p. 244. *Pericrocotus speciosus*, Bl. & Wald. B. Burm. p. 123.—MACCLELLAND'S MINIVET.**

In all respects the same as the preceding (*P. speciosus*), but differs in being smaller.

*Length*.—8 inches; wing 3·7; tail 3·6; tarsus 7·5. The female is a trifle smaller, the outer webs of the central tail feathers are red, and not as in *speciosus* entirely black, or with only a patch of red on them.

*Hab.*—British Burmah. According to Oates it is found over the whole of Pegu. Common over the whole of Arrakan, got in Karenne by Capt. Wardlaw-Ramsay. Mr. Davison states it is common in Tennaserim as far south as Tavoy; thence occurring even down to Mawlaik, but comparatively rare in the extreme southern portion. It has also been found at and around Bhamo, in Cachar, Tipperah and the whole of Assam and the Tributary Mehals.

This gorgeous species, like the rest of its tribe, goes about in small parties, and are generally seen about gardens and orchards, also heavy and thin forests, searching the leaves of trees for insects.

**189. *Pericrocotus andamanensis*, Tytler, Str. F. ii. p. 208; v. 175, 194.—THE ANDAMAN MINIVET.**

Allied to *P. elegans*; differs from it in size. Wing 3·6 to 3·75; the vermilion red of the back less in extent, the wing patch extending to only the outer web of the 4th primary. The difference in this latter extends in *speciosus* to the 3rd primary; *Andamanensis* to the 4th primary, and *flammifer* to the 5th primary.

Together with the slight differences in the amount of red on the back and in the habitat, the question is, whether these are sufficient to constitute good species. I would place *elegans* and *andamanensis*, as synonyms of *speciosus*.

**190. *Pericrocotus flammifer*, Hume, Str. F. iii. p. 329; (footnote); v. p. 195; viii. p. 91; Sharpe, Cat. B. Br. Mus. iv. p. 74; Oates, B. Br. Burmah, i. p. 237.—DAVISON'S MINIVET.**

*Male*.—Whole head, neck, back, scapulars, lesser wing and primary coverts deep glossy black; primaries black, all but the first three with a scarlet patch;

secondaries black, their bases scarlet; tertiaries black, their outer web near the tip with a scarlet spot; greater wing coverts black, broadly tipped with scarlet; rump, upper tail and under wing coverts and the whole lower plumage scarlet; tail scarlet, except the central tail feathers, which have the base of the outer and the whole inner web black.

The female has the front of the head, cheeks, lower back, rump, upper tail coverts and the whole of the under surface bright yellow; back, scapulars, back of head and lesser wing coverts ashy brown; greater coverts dark brown, tipped yellow; wings dark brown, the red patch replaced by yellow; central tail feathers black, with a margin of yellow on their outer webs, the next pair black, the terminal half of outer web and tip of the inner web yellow, the others yellow with black bases. Bill and legs black.

*Length*.—7·3 inches; tail 3·1; wing 3·4; tarsus 0·65; bill from gape ·85.

*Hab.*—British Burmah, in the extreme south of Tennaserim, at Bankasoon, and Pakchan. It also occurs in the Malay Peninsula.

**191. *Pericrocotus flammeus*, (Forst.) Suss. Zool. Ill. p. 52; Jerd. Ill. Ind. Orn. pl. ii. m. and f.; id. B. Ind. i. p. 420, No. 272; Str. F. iii. p. 95; iv. pp. 207, 394; v. 175, 197; Sharpe, Cat. B. Br. Mus. iv. p. 75.**—The ORANGE MINIVET.

Whole head, nape, neck, upper back, wings, and central tail feathers shining blue-black; lower back, rump, upper tail coverts, wing spot to the fifth primary, tips of some of the coverts, and entire under surface deep crimson; lateral tail feathers the same, but with black bases.

The Female has the forehead tinged with yellow, the head and back grey; the rump, wing spots, lateral tail feathers and entire under surface yellow; wings and tail dusky, the pair next the middle feathers edged narrowly with yellow. Bill and legs black; irides dark brown.

*Length*.—7·5 to 8 inches; 3·5 to 3·7; tail 3·9 to 4; culmen 0·37; tarsus 0·6.

*Hab.*—Southern India, in the Circars, along the Coromandel and Malabar Coasts, and Travancore to Ceylon, and in the Concan.

The Orange Minivet is abundant in all the more wooded parts of its habitat, and generally keeps to the topmost branches of high trees. It keeps continually flying from branch to branch, and is incessantly on the move, catching insects. It breeds on the Neilgherries during June and July. The nest is a comparatively massive little cup composed of fine twigs and plastered over with lichen like cobwebs. It is usually placed in the fork of a slender bough. Eggs a palish green, thickly streaked and spotted chiefly at the large end with pale yellowish brown and dingy purple.

**192. *Pericrocotus igneus*, Blyth, J. A. S. B. xv. p. 309; Sharpe, Str. F. iv. p. 209; Hume, Str. F. v. p. 190; viii. p. 91; Sharpe, Cat. B. Br. Mus. iv. p. 78; Wardlaw-Ramsay, Tweed. Mem. App. p. 656; Oates, B. Br. Burmah, p. 239. *Pericrocotus minutus*, Strickl. Contr. Orn. 1849. pl.** —The FIERY MINIVET.

Whole head, chin, throat, nape, neck, back, scapulars, tertiaries, and lesser wing coverts glossy black; rump and upper tail coverts crimson; greater wing coverts black, tipped with crimson; primaries black, all but the first four with a scarlet or crimson spot; secondaries orange at the base and black terminally; under wing coverts and axillaries yellow, tipped with red; central tail feathers black; the next pair black, tipped with red; and the others red, with black bases.

The female has the forehead, feathers round the eye, and entire under surface including the under wing coverts bright yellow; the crown of the head, nape, neck, back, scapulars and wing coverts, olivaceous or greenish ashy; rump and upper tail coverts scarlet; wing and tail as in the male, the crimson spot orange yellow instead; bill and legs black; irides dark brown.

*Length*.—6·5 inches; wing 3·0; tail 3; tarsus ·6; culmen ·7.

*Hab*.—South Tennaserim (Davison); also Malacca, Singapore, and China.

**193. *Pericrocotus cinereus*, Lafres. Rev. Zool. 1845, p. 94; Sharpe, Str. F. iv. p. 211; Hume, Str. F. v. p. 175; Sharpe, Cat. B. Br. Mus. iv. p. 83; Oates, Str. F. x. p. 200. *Pericrocotus modestus*, Strickl. P. Z. S. 1846, p. 102. *Pericrocotus motacilloides*, Swinh. P. Z. S. 1860, p. 58.—The ASHY MINIVET.**

Forepart of the head, cheeks, sides of the neck, chin and throat white; feathers round the eye, at the base of the bill, lores, top of the head and nape deep black; primary coverts also black; wing coverts blackish brown, edged with ashy; the greater coverts white-tipped; primaries dark brown, with an oblique pale ashy white bar across; secondaries brown with white bases; tertiaries ashy, the edges of the outer web white; entire under surface white, the flanks shaded with ashy and the breast and belly with buffy; tail black, the outermost feathers with a broad oblique white tip.

The female is marked similar to the male, except that the black is replaced everywhere with ashy, the tail is brown, and the under parts are suffused with brown; bill and legs black.

*Length*.—8 inches; wing 3·8; tail ·4; tarsus ·6; culmen ·8.

*Hab*.—British Burmah. Oates says he has met with this species near Pegu. It is also found in the Phillippines, Borneo, and Sumatra; also in China and Japan.

**194. *Pericrocotus peregrinus*, Lin. Syst. Nat. i. p. 342; Ferd. B. Ind. i. p. 423; Hume, Nests and Eggs, p. 184; Bl. and Weld. B. Burmah, p. 124; Hume, Str. F. i. p. 177; iii. p. 96; Sharpe, Str. F. iv. p. 209; Hume, Str. F. v. 179; viii. p. 91; Oates, Str. F. viii. p. 166; Legge, Birds, Ceylon, p. 366; Sharpe, Cat. B. Br. Mus. iv. p. 76; Murray, Vert. Zool. Sind. p. 125. *Pericrocotus malabaricus* (Gm.) Hume, Str. F. v. p. 182; Oates, B. Br. Burmah, i. p. 245.—The SMALL MINIVET.**

Upper surface of body ashy grey; a narrow frontal band, lores, chin, throat and ear coverts blackish; wing coverts black, the lesser series edged with dull grey, and the greater with a narrow orange tip; quills dusky black, duller toward the tips; the bases of the primaries, except the first three, orange red, forming a conspicuous wing patch; rump and upper tail coverts bright vermilion; tail black, the four outer feathers on each side widely tipped with orange; the breast vermilion, also the upper abdomen and flanks; fading on the lower abdomen, vent and under tail coverts to yellowish; under wing coverts and edge of the wing yellow; thigh coverts dusky black. Bill and legs black; irides brown.

*Length*.—6 inches; wing 2.55; tail 3; bill at front 0.45.

The female is light grey above, the throat white, also the eye streak; sides of forehead and lower parts whitish, tinged with yellow on the breast, abdomen, and under tail coverts; the flanks and under wing coverts brighter yellow; quills light brown; the primaries with narrow white edgings; the wing spot yellow; rump vermilion; colour of bill and legs as in the male.

*Length*.—6.25 inches; wing 2.75; bill 0.45; tail 3.1.

*Hab.*—India, Ceylon, Burmese countries, Andamans and Java. Occurs in the N.-W. Himalayas, South and Central India, Nepaul, the Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Deccan, Kutch, Kattiawar, Jodhpore, and N. Guzerat. In Sind it is a winter visitant, arriving in August and remaining till about the end of December.

The Small Minivet is most abundant wherever it is found, and like the other species of the genus is a restless bird. It is usually found in small parties. Breeds from about the end of April to the end of June. The nest is a very neat cup, made of very fine twigs, and coated thickly with cobwebs, to which are attached dead leaves, &c. The cobwebs are the nests of a species of spider which build on trees an almost circular papery covering; with these this Minivet lines the outside, making the nest appear as if there were knotty excrescences growing on it. The nest is usually placed high up and in a fork at the end of a bough. Eggs three in number, pale green, marked with reddish brown.

**195. *Periorocotus brevirostris*, Vigors. P. Z. S. 1831, p. 43; Jerd. B. Ind. i. p. 421, No. 273; Stolicka, J. A. S. B. xxxvii. pt. ii. p. 27; Beavan, Ibis, 1870, p. 314; Hume, Nests and Eggs, p. 183; Bl. B. Burmah, p. 123; Sharpe, Str. F. iv. p. 209; Hume, Str. v. p. 187; id. and Dav. S. F. vi. p. 211; Hume, viii. p. 91; Sharpe, Cat. B. Br. Mus. iv. p. 79; Oates, B. Br. Burmah, i. p. 240; Murray, Vert. Zool. Sind, p. 125.**—THE SHORT-BILLED MINIVET.

Head, nape, upper back, wings and middle tail feathers glossy blue-black; the lower back, rump and upper tail coverts deep crimson; lateral tail feathers crimson, the bases black; wing coverts glossy black; the greater

coverts crimson, their bases black; wing spot crimson; chin, throat, and sides of face blue-black, rest of under surface crimson; wing coverts crimson, the greater series ashy black. The female has the head and back grey, the forehead tinged with yellow, the lower back, rump and upper tail coverts yellow; the tail yellow, the basal half of the feathers black; wings dusky, or black, the greater coverts tipped with yellow; wing spot yellow; forehead and lores yellowish white; chin, cheeks and feathers below the eye whitish; under surface of body yellow washed with orange on the breast. Bill and legs black; irides dark brown.

*Length*.—7·5 to 8 inches; wing 3·45; tail 4; tarsus 0·55.

*Hab.*—The Himalayas, Cashmere, Afghanistan, Bhootan, Shillong, Cachar, Assam, Chittagong, Arrakan, Upper Burmah, Punjab, Bengal, Oudh, Rajputana, Central India, and the N.-W. Provinces, visiting the Deccan, Concan, Kutch, Kattiawar, North Guzerat and Sind during the summer months.

The short-billed Minivet has all the habits of the other species of the genus. It breeds on the Himalayas during May and June. The nest is made of the same materials as those of other species. Eggs, 3—4 in number, moderately a broad oval in shape; dull white in colour, and richly spotted, blotched and streaked with brownish red and pale purple. Size 0·73 inch  $\times$  0·54,

**196. *Pericrocotus neglectus*, Hume, Str. F. v. p. 189; Sharpe, Cat. B. Br. Mus. iv. p. 80; Hume, Str. F. viii. p. 91; Oates, B. Br. Burmah i. p. 241.**

“A miniature representative of *P. brevirostris*.”

*Length*.—6·5 to 6·8; wing 3·25 to 3·3; tail 3·0 to 3·25.

The female has the chin and throat a brighter yellow than in *brevirostris*, and the upper plumage is a duller ash.

*Hab.*—Central Tennasserim.

**197. *Pericrocotus roseus*, Vieill. Nouv. Dict. d'Hist. Nat. xxi. p. 486; Ferd. B. Ind. i. p. 422. No. 275; Hume, Nests and Eggs, p. 184; Bl. B. Burmah, p. 124; Sharpe, Str. F. iv. p. 210; Armstrong, Str. F. iv. p. 317; Sharpe, Cat. B. Br. Mus. iv. p. 81; Hume, Str. F. viii. p. 91; Reid, Cat. B. Prov. Mus. Oudh, p. 55. *Pericrocotus intensior*, Hume, Str. F. v. p. 185.—The Rosy MINIVET.**

Head and neck ashy grey; back reddish cinereous; the feathers of the rump and upper tail coverts rosy red; wing coverts dark brown, the greater series tipped with rosy-scarlet; quills dark brown all but the first four primaries with a scarlet patch across them; later secondaries and tertiaries like the back, narrowly margined with scarlet, sides of the head ashy; chin and throat whitish. Entire under surface, including the under wing coverts and axillaries, rosy red; central tail feathers blackish, the others red with dark bases.

The female is paler-ashy above; rump and other parts, which are red in the male, pale yellow. Bill, legs and feet black, irides dark brown.

7·4 inches; wing 3·4 to 3·5; tail 3·5; tarsus ·6; culmen 0·6.

Himalayas, the Punjab, N.-W. Provinces, Oudh, Bengal, Assam, British Burmah and Afghanistan; also in South India, at Goomsur in Travancore, and the greater part of the Carnatic and the Malabar forests.

According to Oates, the Rosy Minivet is found abundantly over the whole of Pegu. It extends in Tennasserim down to Mergui, south of which point Mr. Davison does not appear to have met with it. It is recorded by Blyth from Arrakan, over which division it is probably common. North of British Burmah, it has been procured near Bhamo. It breeds during May and June on the Himalayas. Nests taken at Murree, are of the usual type. Eggs 3 in number, white with greyish brown spots and blotches at the larger end. Size, 0·82 × 0·6 inches.

**198. *Pericrocotus solaris*, Blyth, *J. A. S. B.* xv. p. 310; *Jerd. B. Ind.* i. p. 422, No. 274; *Blanford, J. A. S. B.* 41, pt. ii. p. 47; *Sharpe, Str. F.* iv. p. 210; *Hume, Str. F.* v. p. 186; *Sharpe, Cat. B. Br. Mus.* iv. p. 82; *Hume, Str. F.* viii. p. 91.—The YELLOW-THROATED MINIVET.**

Forehead, crown, nape, neck, back, scapulars and lesser wing coverts leaden black, darker on the wings and black on the tail; chin, cheeks and ear coverts grey; throat orange-yellow; rump and upper tail coverts, wing spot, greater portion of the three outer tail feathers, and entire under surface bright reddish flame colour; greater coverts black, tipped with scarlet; secondaries and tertiaries black with scarlet bases.

The female has the head dark ashy brown tinged with greenish beneath; wing spot, rump and lateral, tail feathers bright yellow; tail yellow. Bill, legs and feet black; irides deep brown.

*Length*.—7 inches; tail 4; wing 3·4; tarsus 0·6; bill from gape 0·6.

*Hab.*—N.-W. Provinces, Eastern Bengal, British Burmah and Nepaul. It is recorded from Pegu by Oates, and from Tennasserim near Thatone and round the base of Mooleyit Mountain; also from Kashmere, S.-E. Himalayas and Sikkim. Habits similar to the other species.

**199. *Pericrocotus erythropygus*, *Jerdon, Birds, Ind.* i. p. 424, No. 277; *Jardine Contributions to Orn. fig.*; *Stray F.* v. 174, 177.—The RED-TAILED OR WHITE-BELLIED MINIVET.**

*Male*.—Plumage above, except the rump, glossy blue-back; rump and breast orange red; entire under surface, wing stripe, outer edges and tips of the lateral tail feathers white.

The female has the black of the male replaced by ashy; the tail black; forehead whitish; the rump and under surface of the body white, tinged with ashy on the breast.

Bill and legs black; irides brownish yellow.



*Length*.—6·5 to 6·8; wing 2·7; tail 3·3; bill at front 0·3; tarsus 0·

*Hab.*—The Punjab, N.-W. Provinces, Bengal, Central Deccan, and South India.

Jerdon says the white-bellied Minivet is extensively spread throughout India, but everywhere rare. He records it from near Jaulmabad in the Deccan, the foot of the Neilgherries, Bundelcund, and N.-W. Provinces. It frequents low and bushy jungles; also thin tree jungle, groves, gardens, and hedgerows, and lives in small flocks. Food various insects. Breeds in Khandeish at Dhoolia. Nest of the usual shape and structure. Eggs 3 in number, greenish-white with pale purplish streaks. Size 0·65 × 0·5 inch.

**200. *Pericrocotus albifrons*, Jerd. Ibis, 1862, p. 20; Bl. B. Burmah p. 124; Hume, Str. F. iii. p. 96; Sharpe, Str. F. iv. p. 212; Hume Str. F. v. p. 178; Sharpe, Cat. B. Br. Mus. iv. p. 86; Hume, Str. F. viii. p. 91.—JERDON'S MINIVET.**

Forehead, supercilium, cheeks, sides of the neck, chin and throat white; lores, ear coverts, top of head, back, scapulars, upper tail and lesser wing coverts, also the primary coverts, glossy black; rump and breast orange red; greater wing coverts black, broadly tipped with white, forming a broad band on the wing; primaries black, with an oblique patch of white on all but the first five feathers; secondaries black, their bases white; tertiaries white, with a large black oblique patch in the centre of each feather; breast, belly and under tail coverts white; the two central pairs of tail feathers wholly black, the others black, broadly tipped with white. The female has the black of the male replaced by sooty brown; the white parts less pure; only a trace of red on the rump, and wholly wanting on the breast.

Bill and legs black; irides dark brown.

*Length*.—6·25 to 6·5 inches; wing 2·5 to 2·65; tail 3·25 to 3·4; tarsus 0·54; bill 0·54.

British Burmah. According to Jerdon it is a very local species, and representative in Upper Burma of *P. erythropygus* of Southern and It was first procured at Thayetmyo. Oates got it at Palow, tmyo, and Blanford traced it as far as Pagan on the Irrawady. and usually in couples or in small families, chiefly in low and thorny not frequenting the dense forests. It is active and restless, flitting the smaller branches and feeding on various insects, which it usually up from a leaf or twig, now and then catching one in the air.

***Pericrocotus immodestus*, Hume, Str. F. v. p. 177; viii. ; Bingham, Str. F. ix. p. 173; Oates, B. Br. Burmah. i. p. 243.—THE FRONTED MINIVET.**

*Female*.—Forehead and front of crown, feathers round the eye, cheeks, sides of the neck, chin and throat whitish; rest of head, neck, scapulars and back earthy brown; lores dark brown; rump and upper tail coverts light brown, very much paler than the back; wings and wing coverts blackish brown, paler on the edges; the primaries with an oblique mark of yellowish white, and the secondaries with a yellow patch at their bases; under wing coverts and axillaries pale yellow; breast, belly, vent and under tail coverts pale buffy brown; tail feathers dark brown, the four outer pairs very broadly tipped with yellowish white, and the shafts of all hair brown. The male is similar, but the white of the head and throat is pure, the head and back dark ashy brown; wing spot white, that on the secondaries tinged with brown, and the lores very dark brown.

Bill and legs black; irides hazel.

*Length*.—8 inches; wing 3·5; tail 3·7; tarsus 0·55; bill from gape 0·75.

*Hab*.—British Burma, in the Pegu Division, and in the extreme south of Tenasserim, where Davison met with it.

#### Gen. *Lalago*.—*Boie*.

Shrike-like birds of soft plumage; feathers of the lower back and rump rather stiff; bill stout and moderately hooked; rictal bristles almost wanting; wings longer than the tail; under tail coverts long.

**202, *Lalago sykesi*, Strickl. Ann. Nat. Hist. Ser. i., xiii. p. 36; Legge, Birds, Ceylon, p. 369; Sharpe, Cat. B. Br. Mus. iv. p. 89. *Volvocivora sykesi*, Ferd. B. Ind. i. p. 414, No. 268; Hume, Nests and Eggs, p. 179; Bl. B. Burm., p. 123; Hume, Str. F. viii. p. 91. *Campophaga sykesi*, Oates, B. Br. Burm. i. p. 234.**—THE BLACK-HEADED CUCKOO-SHRIKE.

Head, neck, upper back, chin, throat and upper breast black; lower breast and abdomen pale grey, gradually passing to white on the vent and lower tail coverts; lower back, scapulars, lesser wing coverts, rump and upper tail coverts grey, the latter margined paler; median wing coverts black, tipped and broadly margined for their terminal half on the outer webs with grey; greater wing coverts black, narrowly margined greyish; primaries and secondaries black, the primaries with a narrow white margin on their outer webs and a large white patch on their inner webs, the secondaries rather broadly margined and tipped with white; tail with the central feathers grey, the rest black, broadly tipped with white.

The female has the head and the upper plumage grey, paler on the rump and upper tail coverts, the latter barred with dusky; cheeks, sides of the neck and the whole of the lower plumage whitish or albescent, closely and narrowly barred transversely with black, the bars becoming obsolete on the abdomen; vent and under tail coverts white; quills and wing coverts dark brown, each feather margined with greyish white; ear coverts greyish, mottled with brown; the feathers white shafted; tail with the central pair of feathers grey, narrowly

tipped with white, the rest blackish or dark brown, broadly tipped with white, the outermost with the white tipplings, mottled with brown.

The young are similar to the adult female; adults have the bill black, also the legs and feet; iris brownish red.

*Length*.—7·5 inches; wing 4; tail 3; tarsus 0·8; bill from gape 0·85.

*Hab.*—The whole Peninsula of India and Ceylon, Central and Southern India, Bengal, the Concan and Deccan, and, according to Blyth, Upper Pegu. It hunts usually in small parties, and occasionally, according to Jerdon, singly or in pairs, flying from tree to tree, and slowly and carefully examining the foliage, prying searchingly all around and under the leaves to discover a suitable morsel. It continues its search, hopping and flying, from branch to branch till the tree has been well inspected, when the flock flies off together to another tree. Caterpillars and other soft insects are its favourite food. Dr. Jerdon adds that it is usually a silent bird but has a harsh call, and mentions having in June heard a male giving out a clear whistling call as it was flying from tree to tree. It affects wooded tracts, but not deep forests. Mr. Blewitt found the nest of this species in Bundelcund in July. It was placed at the end of two small out-shooting branches of a Mowa tree, and was slightly made of thin twigs and roots, and partially covered with spider's web. The eggs, two in number, were green, mottled with dark brown.

**203. *Lalage melanothorax*, Sharpe, Cat. B. Br. Mus. iv. p. 90.**—**THE BLACK-BREASTED CUCKOO-SHRIKE.**

Closely allied to *L. sykesi* but differs in being larger and in having the black of the neck extending much further down on the breast and back.

*Length*.—7·5 inches; wing 4·2; tail 3·2; culmen 0·8.

*Hab.*—Madras (South India).

**204. *Lalage terat*, Bodd., Tab. Pl. Enl. pl. 17; Hume, Stray F. i. p. 66; ii. p. 202; Sharpe, Cat. B. Br. Mus. iv. p. 91.**—**THE NICOBAR CUCKOO-SHRIKE.**

*Adult Male*.—Forehead, top and back of head, interscapulary region, scapulars and lesser wing coverts black, with a green metallic gloss; a broad streak from the nostrils over the eye and ear coverts, wing lining, edge of the wing, axillaries and entire lower parts including the sides of the neck, broad tips to the two external lateral tail feathers, a narrow tip to the next pair, the median wing coverts, broad margins to the outer webs of the greater coverts, the secondaries and the bases of the inner web of the primaries pure white; the breast and sides tinged with grey; the middle and lower back, rump and upper tail coverts grey, the two latter with faint traces of whitish bars; a streak from the gape through the eye black.

In the female the superciliary stripe is not so conspicuous and the greater wing coverts are only narrowly tipped with white. The forehead, top and

back of the head and interscapular region are iron grey, the breast is regularly and narrowly barred with darker grey.

*Length*.—6·75 to 7·25; wing 3·4 to 3·6; tail from vent 2·75 to 3·12; tarsus 0·65 to 0·82; bill from gape 0·8.

*Hab*.—Camorta Island (Nicobars), also in Achéen, the Malay Peninsula, Java, Sumatra, Borneo and the Philippine Islands.

Mr. Davison says it is not uncommon at Camorta, frequenting in small parties, of five or six or in pairs, the low scrubby under-growth and gardens, and feeding close to the ground. Nothing is known of its nidification.

### Family.—MUSCICAPIDÆ.

Passerine birds of very varied form, embracing a large number of Genera, connecting the woodshrikes with the thrushes, with ample rictal bristles, wide, depressed or shallow-bills. They are all chiefly insectivorous. Their wings are moderate and not adapted for long and speedy flight, but are capable of rapid and powerful sallies.

### Gen. *Hemichelidon*—Hodgs.

Bill much depressed and shallow, wide at base, slender and narrowed at tip, which is faintly hooked; gape wide; rictal bristles moderate; wings long; 3rd and 4th quills sub-equal and longest; 1st quill minute; tarsus feeble, lateral toes unequal.



*Head of Hemichelidon ferruginea.*

**205. *Hemichelidon sibirica*, Gm. Syst. Nat. i. p. 936; Hume, Nests and Eggs, p. 206; id. Str. F. iii. p. 104; David et Oust. Ois. Chine, p. 122; Hume, Str. F. viii. p. 92; Sharpe, Cat. Birds, B. Mus. iv. p. 120. *Hemichelidon fuliginosa*, Hodgs. P. Z. S. 1845, p. 32; Hume and Henders. Lah. to Yarkand, p. 184, pl. iv.; Jerd. B. Ind. i. p. 458, No. 296; Oates, B. Br. Burm. i. p. 275. *Butalis sibiricus*, Bl. B. Burm. p. 104.—The SOOTY FLY-CATCHER.**

Above brown, the feathers of the head with darker centres, the wings slightly edged pale rufous, broader after the autumnal moult; feathers round the orbits white; lores mixed whitish and brown; sides of the face brown; chin, throat, breast, sides of the body fuliginous or smoky brown, in some an indistinct whitish patch on the lower throat; abdomen, vent and under tail coverts white, the latter mixed with brown; tail brown.

The young are spotted with fulvous white above, and the margins of the wing feathers are broadly fulvous. Upper mandible of bill dark brown, lower mandible yellowish, iris brown, legs brownish black.

*Length*.—4·5 to 4·6 inches; wing 2·75 to 2·8; tail 1·75 to 2·0; tarsus 0·5; bill from gape 0·55.

*Hab.*—N. W. Provinces, Oudh, and probably Bengal. It is found throughout the Himalayas, common about Darjeeling, from 6,000 feet upwards, to Nepal; spread over the whole of British Burmah as a winter visitant. Oates records it from the Pegu Hills near the frontier, and Dr. Armstrong got it at Elephant Point, but found it rare. Captain Wardlaw-Ramsay mentions his getting a young bird on the Tounghoo Hill in December. According to Davison, it is everywhere scarce in Tenasserim. Found also in the Malay Peninsula, and extends to China and Eastern Siberia.

The Sooty Fly-Catcher breeds in the Himalayas, making a nest of moss against the side of a tree trunk, or on the broken end of a branch, laying three eggs, which are dull green marked with reddish brown. They are long ovals, a good deal pointed and compressed at the smaller end; size 0·65;  $\times$  0·46. Jerdon says it is sedentary in its habits, darting on insects from a fixed perch on a low branch, and that he never saw it descend to the ground to feed.

**206. Hemichelidon ferruginea**, *Hodgs.*, *P. Z. S.*, 1845, p. 32; *Hume*, *Nests and Eggs*, p. 207; *Sharpe*, *Cat. B. Br. Mus.* iv. p. 122. *Butalis ferruginea*, *Bl. B. Burm.* p. 104; *David et Oust. Ois. Chinc.* p. 121, *Alseonax ferruginea*, *Jerd. B. Ind.* i. p. 460, No. 299; *Hume and Dav.*, *Str.*, *F.* vi. p. 277; *Bingham*, *Str. F.* ix. p. 175; *Oates*, *Str. F.* x. p. 204; *Oates B. Br. Burm.* i p. 276.—THE FERRUGINOUS FLY-CATCHER.

Forehead and crown of head dark brown; orbital feathers pale buff; lores and ear coverts rufescent brown; back, scapulars, lesser wing coverts, rump and upper tail-coverts, rusty or reddish brown, becoming deeper (chestnut) on the latter and on the rump; median and greater coverts brown, edged and tipped with chestnut; quills dark brown, the later secondaries and tertiaries edged with rusty brown; under surface of quills buffy; tail reddish brown; lower throat with a patch of white, the rest of the under surface chestnut; the throat rufescent brown; bill dusky, yellowish at base of lower mandible; legs pale fleshy; irides dark brown.

*Length*.—5 inches; wing 2·75; tail 2·0; tarsus 0·5; bill from gape 0·65.

*Hab.*—The Carnatic, N. W. Provinces, British Burmah, Nepal, Sikkim, and Ceylon. The ferruginous flycatcher is a rare visitant to the plains of India. Jerdon says he did not hear of its occurrence away from the Himalayas. It is common in the neighbourhood of Darjeeling, from 4,000 to 8,000 feet. In Burmah it is a winter visitor. It is recorded from Bankasoon in Tenasserim; Oates procured specimens near Pegu, and Captain Bingham secured a specimen in the Thoungyeen Valley. It extends southwards through the Malay

Peninsula, and is found in Cochin-China. It frequents, according to Jerdon, dark, open forests without underwood, and pursues insects from a low branch, or the stump of a fallen tree.

It breeds in the Himalayas. The structure of the nest, as well as the number, size, and shape of the eggs, is the same as in the preceding species—colour a sort of buff, minutely and feebly freckled with brownish red; size  $0.64 \times 0.5$ .

Gen. **Alseonax**.—*Cabanis*.

Bill more lengthened than in *Hemichelidon*, less swallow like, being narrower in front and deeper vertically; 3rd and 4th quills subequal.

**207. Alseonax latirostris**, *Raffles, Trans. Lin. Soc.* xiii. p. 312; *Jerd. B. Ind.* i. p. 459, No. 297; *Hume and Henders. Lahore to Yark.* p. 185, pl. v.; *Hume, Str. F.* ii. p. 219; *Brooks, Str. F.* iii. p. 276, iv. p. 273, v. p. 470; *Sharpe, Cat. B. Br. Mus.* iv. p. 127; *Scully, Str. F.* viii. p. 276; *Legge, B. Ceylon*, p. 415; *Hume, Str. F.* viii. p. 92; *Brooks, Str. F.* ix. p. 225. *Butalis terricolor*, *Bl. J. A. S. B.* xvi. p. 120. *Muscicapa cinereo-alba*, *Tem. and Schleg. Faun. Jap-Aves*, p. 42. pl. 15. *Alseonax terricolor*, *Jerd. B. Ind.* i. p. 460, No. 298; *Brooks, Str. F.* iii. p. 234. *Butalis latirostris*, *Bl. B. Burm.* p. 104; *Oates, B. Br. Burm.* i. p. 277.—THE BROWN FLY-CATCHER.

Above greyish brown or dark brown, the feathers of the crown centred darker; lores and orbital ring white. Scapulars, tertiaries, and secondaries dark brown; wing coverts the same; all but the primaries edged with rusty; tail dark brown, the outermost feathers narrowly tipped with whitish; under surface of body white, tinged with pale ashy on the breast, flanks, and sides of the throat.

Immature birds have broad fulvous margins to all the feathers of the upper plumage. Bill, legs and claws black; base of lower mandible yellow; in the immature, except the tip, which is dusky, the whole lower mandible is yellow.

*Length*.—5 to 5.2 inches; wing 2.75 to 2.85; tail 2.5 to 2.85; tarsus 0.5; bill from gape 0.7.

*Hab.*—N. W. Provinces, Oudh, Central India, the Concan, Deccan, South India, Malabar Coast, Ceylon, British Burmah, and Nepaul. Extends to Cochin-China.

The Brown Fly-Catcher is a winter visitor to Burmah. It is said to be a resident of Southern India and Ceylon, but nothing appears to be known of its nidification. Oates says that in Pegu some birds would appear to stay all the year round, or to nest close by, having shot both adult and young in July. It is abundant, according to him, in the southern half of Pegu. Captain Wardlaw-Ramsay got it at Tounghoo. Mr. Blyth received it from Arrakan, and Davison says he observed it in the southern half of Tenasserim. It extends down the

Malay Peninsula to the Archipelago, and is found spread over China in winter. Its habits are quite those of the other species. Jerdon says it is very sedentary, sitting motionless on a branch and darting out occasionally to capture an insect on the wing.

Gen. **Muscicapa**, Linn.; Butalis Boie.; Erythrosterina, Bp.

Wings pointed and long; bill rather long, depressed, wide throughout, except at tip; second primary longer than the secondaries and nearly the length of the third; nasal bristles scanty.

**208. *Muscicapa grisola*, Linn. Syst. Nat. i. p. 328; Tem. Man. i. p. 152; Naum. vogt. Deutsch. ii. p. 216; MacGill. Br. B. iii. p. 518; Gray, Gen. B. i. p. 262; Gould. B. Eur. ii. pl. 65; Sharpe, P. Z. S. 1873, p. 71; id. Cat. Passerif. B. Br. M. p. 151; Blf. East Pers. p. 143; Str. F. 1873, p. 377; Murray, Vert. Zool. Sind, p. 127. Butalis grisola, Boie. Isis, 1826, p. 973; Cat. Mus. Heine. Th. i. p. 52; Sharpe, Cat. Afr. B. p. 42, No. 391; id. Ibis, 1872, p. 70; Hume, Str. F. 1875, p. 467; 1877, p. 495. Butalis africana, Bp. C. R. xxxviii. p. 652.—THE SPOTTED GREY FLY-CATCHER.**

Lores and feathers immediately above the nostrils dingy fulvous white; head, nape, cheeks, ear coverts, back and scapulars, pale earthy or greyish brown; the feathers of the head with darker brown central streaks not extending to the tips, and those of the forehead tinged with the fulvous colour of the lores; the rump, in some, uniform with the back, in others slightly darker; wings and tail brown, paler and greyer on the tertiaries and laterals, all the feathers margined with brownish white; the greater secondary coverts and tertials most broadly so; the tail feathers, except the exterior lateral ones, inconspicuously so; lower parts white, tinged with fawn colour towards the vent, and with narrow inconspicuous grey brown streaks on the breast; axillaries and wing lining very pale rufous fawn; sides and flanks tinged faintly with the same colour and dull fulvous.

"Bill black, dark fleshy at base of lower mandible; legs and feet blackish brown; iris deep brown; interior of mouth orange."—(Hume, Str. F., vol. 3, p. 467.)

*Length*.—5·4 inches; bill at front 0·55; wing 3·4; tail 2·45; tarsus 0·6.

*Hab*.—The whole of Europe, extending in the winter into South Africa and N. W. India, Sind, Beloochistan, Afghanistan, Persia (Northern and Southern), Kutch, Kattiawar, Jodhpore, Sambhur. Visits Sind in the course of its migration in August and September, and at about the same time of the year in other parts of the Western Presidency.

All the species of this genus are quick and active birds, incessantly hopping about on the branches of trees, generally thin scrub or acacias, searching for insects, which are their chief food.

**209. *Muscicapa sordida* (Godw.-Austen).** *Sharpe, Cat. B. Br. Mus.* iv. p. 156. *Erythrosterna sordida*, *Godw.-Austen, J. A. S. B.* xliii., p. 158; *Hume, Str. F.* 1875, p. 692.—THE OLIVE-BROWN FLY-CATCHER.

Above dull, olivaceous brown, ochraceous on rump and upper tail feathers; tail umber-brown, slightly tinged with ochre on outer web; quills the same as the tail and edged with olive; the primary and secondary coverts very slightly tipped pale, forming an inconspicuous bar on the wing; lores and a distinct ring round the eye dull whitish; ear coverts and sides of face olive brown, with buffy shaft streaks; cheeks and under surface of body ashy (lutescent, Hume), strongly washed with olive, the foreneck with an ochraceous tinge; under wing coverts and axillaries pale yellowish buff; quills ashy brown below, yellowish buff along the inner webs.

*Length*.—4·6 inches (5·25, Hume); wing 2·6 to 2·7; tail 2·2; tarsus 0·65. (Sharpe).

*Hab*.—Sudiya in Upper Assam, and the Naga Hills.

**210. *Muscicapa parva*, Bechst. Nat. Deutsch.** iv. p. 505; *Tem. Man.* i. p. 158; *Werner, Atlas, Insectivores*, pl. 10; *Gray, Gen. Birds*, i. p. 262; *Gould. B. Eur.* ii. pl. 64; *Dresser, Ibis*, 1876, p. 188; *Sharpe, Cat. B. Br. Mus.* iv. p. 161; *Murray, Vert. Zool., Sind*, p. 128. *Erythrosterna parva*, *Bp. Consp. List. B. Eur. and N. Amer.* p. 25; *id. Consp.* i. p. 318; *Blf. East. Pers.* p. 144; *Hume, Str. F.* 1873, pp. 179, 377, 405; 1875, p. 469; 1876, p. 273; 1877, p. 484; vol. v. p. 471; *Murray, Hdbk. Zool., &c., Sind*, p. 139. *Muscicapa rufogularis*, *Brehm. Vog. Deutsch.* p. 228.—THE RED-BREASTED FLY-CATCHER.

Forehead, sides of face and ear coverts grey; a circle of whitish feathers round the eye; crown of head, back, wing coverts and quills externally ashy brown; inner web of primaries dusky; upper tail coverts and tail dark brown, all, except the centre tail-feathers, white at their bases; the external web of the lateral ones on each side dusky; chin, cheeks, and foreneck orange, rest of under surface fulvous white or buffy white; thigh coverts ashy brown; under wing coverts fulvescent, as are also the margins of the inner webs of the under surface of the quills; bill brownish; legs dark brown.

*Length*.—5 inches; bill at front 0·4; wing 2·6; tail 2; tarsus 0·65; culmen 0·4.

The female has the quills and wing coverts, especially the greater series, edged with light brown; the chin, throat and breast deep buffy, and the abdomen and vent white.

*Hab*.—Europe, extending into N. W. India, the Himalayas, Cashmere and Nepaul. Extremely common in Beloochistan, Persia, and South Afghanistan; also in Sind, the Punjab, N. W. Provinces, Oudh, Rajputana, Central India, the Deccan, Concan, Kutch, and North Guzerat. A winter visitant in Sind and other parts of the Western Presidency.



**211. *Muscicapa albicilla*, Pall. Zoogr. Rosso-Asiat. i. p. 462, Aves, tab. i.; Sharpe, Cat. B. Br. Mus. iv. p. 162; Oates, B. Burm. i. p. 278. *Erythrosterna leucura*, (Gm.) Jerd. B. Ind. i. p. 481, No. 323; Bl. B. Burm., p. 103. *Erythrosterna albicilla*, (Pall.) Anders. Yunnan Expedition, p. 621; Hume and Dav., Str. F. vi. p. 233; David et Oust. Ois Chine, p. 120; Scully, Str. F. viii. p. 280; Hume, Str. F. viii. p. 93.—The WHITE-TAILED ROBIN FLY-CATCHER.**

*Male in summer plumage*.—Upper plumage and wings olive brown, the latter margined paler; upper tail coverts black; tail black, the four outer pairs of feathers white for about two-thirds of their length from the base; lores mixed ashy and white; chin and throat orange; ear coverts, cheeks and a band passing round the orange of the throat pure ashy, extending on to the upper breast in some; rest of lower plumage ashy white.

In winter the male loses the orange on the chin and throat, and the plumage on the under surface of the body is tinged with buff; orbital ring white.

The female is like the male in summer; bill dark brown, yellowish at the gape; iris hazel brown; legs black.

*Length*.—5 to 5·1 inches; wing 2·75; tail 2·0 to 2·1; tarsus 0·65; bill from gape 0·6.

*Hab*.—N.-W. Provinces, Oudh, Bengal, also the Concan, and, perhaps, the Deccan, as well as British Burmah and Nepaul. Jerdon says it is found "throughout the whole of India." This statement is certainly incorrect. It is not known from South India, though it occurs in Ceylon. In Northern and Central India it is not uncommon, but everywhere, even in British Burmah, as a winter visitant. According to Oates it is common in Pegu, and spread over the whole division from November to March. It is recorded from Arrakan, and Mr. Shopland got specimens at Akyab. At Tounghoo Captain Wardlaw-Ramsay obtained specimens. It is spread over the whole of Tenasserim. It is said to summer in Eastern Siberia and North China.

The White-tailed Robin Fly-Catcher affects gardens, orchards, groves and low jungle chiefly. It appears to be strictly arboreal, playing about on the branches of trees searching for insects, and never descending to the ground.

**212. *Muscicapa hyperythra*, Cab. Journ. F. Ornith. 1866, p. 391; Sharpe, Cat. B. Br. Mus. iv. p. 163. *Erythrosterna hyperythra* (Cab.) Hume, Str. F. vii. p. 376.—The WHITE-TAILED ROBIN OR RUFOUS-BREASTED FLY-CATCHER.**

The upper surface is brownish grey, turning to a purer grey on the rump and upper tail coverts; tail black, with the basal halves of the lateral rectrices white, the upper tail coverts, especially the longest, are blackish in parts, especially on the outer webs. The lower surface is a bright red-brown or rusty-red,

except on the middle of the abdomen, which is pure white. The red-brown colour is most intense on the throat and breast, lighter and mingled with albescent on the sides of the abdomen and lower tail coverts; tibial plumes grey; loreal region somewhat dotted with white; sides of the head and neck pure grey, separated from the red-brown of the throat and breast by an irregular blackish line; under wing coverts tinged with rusty yellow; feet and upper mandible brown, the lower yellow; 4th quill longest, fifth longer than the third, 2nd about equal to the 8th.

*Length*.—5·33 inches; wing 2·88; tail 3·3; tarsus 0·78 (Cabanis). The distinguishing characters of this species are the rich orange-brown of the throat and breast, and the black stripe running from the bill down the sides of the neck to the breast and terminating below the bend of the closed wing; bill dusky above, yellow beneath; irides dark brown. (Holdsworth.)

*Hab*.—Central India and the N.-W. Provinces. Also Ceylon and Cashmere.

The Rufous-breasted Fly-Catcher appears to have the usual habits of the other species. According to Brooks it breeds in Cashmere at from 6,000 to 7,000 feet elevation. There is no record of its nest having been found.

**Gen. Pratincola.** *Koch. Syst. d. Baier. Zool.* p. 190.

Bill short, straight, wider at the nostrils than high; nostrils hidden; second primary longer than the secondaries, the first not half the length of the second.

**213. Pratincola macrorhyncha.** *Stoliczka, J. A. S. B.* xli. p. 238; *Hume, Str. F.* 1876, p. 40; 1877, p. 131, 241, 244; 1879, p. 53. *Sharpe, Cat. Birds, B. Museum.* vol. iv. p. 182; *Murray, Vert. Zool., Sind,* p. 138. *Pratincola rubetraoides, Ferd. B. Ind. iii. App.* p. 872 (*ex. Jameson MS. Desc Nulla*) *Dresser, B. Eur.* parts 23, 24; *Hume, Str. F.* 1877, p. 239. *Pratincola rubetra, Hume, Ibis,* 1869, p. 354. *Pratincola Jamesoni, Hume, Str. F.* 1877, p. 239 (*nom emende*).—STOLICKZA'S BUSH-CHAT.

*Adult Male*.—A broad stripe over the eyes and over the greater portion of the ear coverts white, with a slight buffy tinge; lower parts of the lores dusky; chin, throat and entire lower parts, including lower tail coverts and tibial plumes, white with a yellowish tinge and a very feeble rufescent tinge on breast and flanks; wing lining and axillaries pure white, the former slightly mottled with dusky; forehead, crown, occiput, nape, back and scapulars light sandy buff, striated longitudinally with hair brown; rump and upper tail coverts white, most of the feathers tinged towards their tips with pale rusty buff; primaries and secondaries hair brown, margined on the outer webs with light buff and tipped with yellowish white, the primaries more narrowly, the secondaries more broadly; tertiary greater coverts, or perhaps I should call them lower scapulars, white; tertiaries and greater and median secondary coverts deep brown, broadly margined with pale, more or less rufescent buff;

entire visible portion of lesser coverts pale sandy buff; edge of wing and outer webs of earlier greater primary coverts pure white; tail hair brown, all the feathers margined on the outer webs with sandy buff or light yellowish brown; the outer web of the outermost feather almost entirely of this colour; all the feathers, except the central pair, with almost the entire inner webs, white, the outermost pair have an irregular subterminal brown band from 0.2 to 0.3 inch wide on this web, but the rest have only a small patch of brown near the shaft close to the tip, the pair next the centre have the patch rather larger; there are traces of a dark streak from the base of the lower mandible down either side of the throat, expanding on the sides of the breast; doubtless in breeding plumage this streak and patch are black or blackish; bill and feet black; iris brown.

*Length*.—6 inches; culmen 0.7; wing 3; tail 2.12; tarsus 0.7. (Hume.)

*Breeding Plumage*.—Two or three of both my males and females have the lower parts of the lores, cheeks, ear coverts and entire sides of the throat (leaving only a narrow pure white stripe down the centre of the throat) black; the feathers only a little tipped with pale sandy, which doubtless in the breeding season entirely disappears; also the lesser and median, and secondary greater wing coverts and the winglet have become nearly black, only very narrowly edged with sandy buff, which colour also seems in the course of disappearing. (Hume)

*Adult Female* in winter plumage similar to the male, but smaller and showing the dark streak and patch much less.

*Length*.—5.5 inches; culmen 0.7; wing 2.9; tail 2; tarsus 0.93. (Hume.)  
*Ex. Sharpe, Cat. B. Br. Mus.* vol. iv. p. 188.

*Hab*.—Sind, Punjab, and N.-W. Provinces. Mr. Hume gives the following distribution of this species in vol. vii. of *Stray Feathers*, p. 55:—"Punjab (Goorgaon, Umballa, Sirsa, Hansi, Shahpore and probably all western districts); Rajputana (Jodhpore, Biccaneer, Jeysulmere); North Guzerat, Kutch, Sind (Thurr and Parkur districts) and probably elsewhere." I got it at Chaman (Afghanistan), and in the Bolan Pass, Beloochistan.

**214. *Pratincola insignis*.** *Blyth, J. A. S. B.* xvi. p. 129; *Jerd. B. Ind.* ii. p. 127, No. 485; *Rainey, Str. F.* iii. p. 330; *Hume, Str. F.* v. pp. 132, 496; *id. Str. F.* vii. pp. 454, 519; *Sharpe, Cat. B. Br. Mus.* iv. p. 187.—The LARGE BUSH CHAT.

*Male*.—Entire cap, lores, cheeks and ear coverts black, many of the feathers faintly fringed at the tips with pale brown; nape dark brown; the feathers much fringed at the tips with the same pale brown; chin, throat, sides of the neck, behind the ear coverts, and a broad imperfect collar at the base of the neck, white; back and scapulars brown, all the feathers fringed with pale brown; rump greyish buffy, more distinctly tinged buffy at the tips; upper tail coverts white, with a buffy tinge towards the middle; wings dark brown;

the primaries white at the base on both webs so as to form a conspicuous wing spot; all the quills broadly white on their inner webs towards their base; tertiaries and all the coverts, and the greater and median coverts of the later secondaries, white; first and second primaries very narrowly margined white towards the tips; secondaries tipped inconspicuously with dull white; all the quills more or less margined paler on their outer webs; 3rd to 6th primaries conspicuously emarginate on their outer webs; tail dark brown, very narrowly margined and tipped with pale fulvous brown; breast rather pale ferruginous chestnut; rest of the lower parts very pale fulvous; axillaries white, grey on their inner webs; wing lining mingled with pale brown and fulvous white.

*Length*.—5·0 to 6·3 inches; wing 3·3 to 3·55; tail 2·3; bill from forehead 0·69; tarsus 0·97 to 1·1.

The above is Mr. Hume's description of a male specimen obtained by Mr. Mandelli in the lower hills of the Bhootan Doars in April.

A female obtained by Mr. Cleveland in October, a little west of the place where Hodgson got his type, is described by Mr. Hume as under:—

Upper parts grey earth-brown, the feathers centred with dark hair brown; upper tail coverts dull rather pale ferruginous buff; wings and tail blackish brown, the greater and median coverts broadly tipped, the greater coverts with dull rather creamy white, the rest with pale buff, forming two rather conspicuous wing bars; all the quills and coverts margined with creamy white; tail feathers similar; chin and upper throat creamy; rest of lower parts nearly uniform rufous buff, and paling somewhat on the lower tail coverts, flanks, axillaries and wing lining; the base of the quills on their inner web with a rufous white patch; irides brown; bill and legs black.

*Length*.—5·8; wing 3·42; tail 2·4; tarsus 1·08; bill 0·67.

*Hab*.—Bengal and Nepaul. Mr. Cleveland's specimen came from Captain Gunj, Zilla Bustec; Hodgson's type was from Segowlee. The species, according to Mr. Cleveland, affects the cane-fields.

**215. *Pratincola maura*.** *Pall. Reis. n. Anhang.* p. 708; *Gm. Syst. Nat.* i. p. 975. *Blyth, J. A. S. B.* xvi. p. 129; *id. Cat. Mus. A. S. B.* p. 170; *Bp. Consp.* i. p. 305; *Str. F.* 1873, p. 355; 1875, p. 138; t. c. p. 475; 1876, pp. 142, 259, 275, 327; 1877, p. 36; *Jerd. B. Ind.* ii. p. 124, No. 483; *Murray, Hdbk., Zool., &c., Sind.* p. 145; *Sharpe, Cat. Birds, Br. Mus.* vol. iv. p. 188. *Murray, Vert. Zool. Sind.* p. 139. *Pratincola robusta*, *Tristr. Ibis.* 1870, p. 497; *Brooks, Str. F.* 1876, p. 274; *Hume, Str. F.* 1877, p. 131; 1878, p. 335; vii. p. 55. *Pratincola rubicola* (*Pl.*), *Severtz. Turkest. Jevotn.* p. 65; *Dresser, B. Eur.* pt. 23, 24. *Hume, Nests and Eggs, Ind. B.* p. 316.—THE INDIAN BUSH CHAT.

*Adult Male*.—Head, neck, chin, throat, sides of face, back, tail and wings black; the feathers of the back and scapulars (some of which are white tipped) edged with pale rufous, and the tail basally white; the quills dusky brown, margined with sandy brown, as are also the wing coverts and secondaries; a large wing patch, rump, upper tail coverts, and sides of neck forming a demicollar, white; foreneck and breast bright ferruginous; abdomen, vent and under tail coverts white, slightly tinged with fulvous; axillaries black. In winter plumage, the general colour above is brown, the rump and upper tail coverts rusty, also the entire under surface, but duller. The adult female is brown above with pale rufous edges to the feathers, and the edgings to the wing coverts and scapulars much lighter; the wing patch is much smaller and less distinct; the rump and upper tail coverts a rufescent buff; cheeks and throat fulvous ashy, and the entire under surface a sullied white or pale buff; the axillaries also buffy; the bases of the feathers brownish; bill and legs black; irides brown.

*Length*.—4·5 to 5·5 inches; wings 2·75; tail 1·75; tarsus 0·85.

*Hab.*—India generally during the winter, also China, Japan, Cashmere, Nepaul, N.-W. Himalayas, Upper Burmah, Eastern Turkistan, Abyssinia, Beloochistan (Bolan and Quetta), Afghanistan (Chaman and Gulistan). Occurs in Sind, Kutch, Kattiawar, Jodhpore, Jeypore, North Guzerat, the Deccan, Kamptee, in Central India and Darjeeling.

The Indian Bush Chat breeds throughout the lower ranges of the Himalayas, south of the first snowy range, at almost any elevation not exceeding 5,000 feet, from Afghanistan to Assam. Occasionally, too, they breed in the salt range in the Suleiman Hills, in the plains district of the Punjab which skirt the bases of these lower hills, and there is one instance on record of the nest being taken at the extreme south of the Sharunpoor district. April and May appear to be the months in which they mostly lay, but they have two, and possibly three, broods, eggs having been taken at Kotegurh as early as the first week in March and as late as the middle of July. The situation of the nest varies according to locality. They have been found in low, thick, generally thorny, bushes or dense tufts of grass on or near the ground and in crevices of rough stone walls.

The nest is a more or less regular cup, composed of coarse grass and dried moss lined with fine grass, fur, hair, feathers, and the like. The eggs are 4 or 5 in number. The ground colour is dull pale green or greenish white, and they are finely and faintly freckled with pale brownish red; size 0·7 + 0·55.

**216. *Pratincola leucoura*.** *Blyth, J. A. S. B.* xvi. p. 474; *Bp. Consp.* i. p. 305; *Jerd. B. Ind.* ii. p. 126, No. 484; *Hume, Str. F.* 1873, p. 183; 1874, p. 478; 1875, p. 135; *Murray, Hdbk., Zool., &c., Sind*, p. 145; *Sharpe, Cat. B. Br. Mus.* iv. p. 134; *Murray, Vert. Zool., Sind*, p. 140; *Oates, B. Br. Burm.*, i. p. 280.—THE WHITE-TAILED BUSH CHAT.

*Adult Male in Summer Plumage.*—Above black ; rump duller ; upper tail coverts white ; central tail feathers blackish brown, basally white, the others dark brown on the outer web and white on the inner ; wings black ; quills duller, margined pale brown ; a white wing spot ; breast bright rufous ; sides of head and throat black ; on the sides of the neck a white patch, broader at the lower throat ; rest of under surface pure white, tinged with rufescent on the sides ; under wing coverts black, edged with white. “ In the winter plumage the male is nearly a sandy brown above, almost uniform, the black centres to the feathers being effectually concealed ; upper tail coverts white, sandy rufous at their ends ; tail feathers dark brown, edged with sandy colour ; the inner webs white, slightly shaded with sandy buff at the tips ; wings black, with broad sandy brown edges to the feathers ; the inner secondaries margined with rufous, some of the feathers forming the white wing patch, edged with brown ; a loral line of ashy white ; feathers in front of and round the eye black, with sandy brown edgings ; throat black, obscured by ashy white margins to the feathers ; on each side of the lower throat a white patch half concealed by rufous tips to the feathers ; breast and sides of body orange rufous, the feathers edged with sandy buff ; plumes on the sides of the upper breast white, tipped rufous ; under wing coverts and axillaries white with dusky bases.”

“ The *adult female* is earthy brown, with more or less distinct remains of sandy brown edges ; upper tail coverts sandy buff ; tail feathers brown, dull white along the basal portion of the inner web ; wings brown, with buffy white tips to the greater coverts ; wing patch smaller than in the males ; lores fulvous, extending over the forepart of the eye ; round the latter a ring of sandy buff ; ear coverts brown with fulvous shaft-lines ; cheeks and throat white ; breast and sides of body paler orange buff ; the centre of the abdomen buffy white ; under wing coverts and axillaries pale sandy buff with dusky bases ; quills brown below, whitish along the edge of the inner web ; bill and feet brownish black ; irides brown.” (Sharpe.)

*Length.*—5 inches ; wing 2·5 ; tail 2 ; bill at front 0·5.

*Hab.*—India and Burmah, N.-W. Himalayas, Sind, Punjab, at Mooltan, and the Gangetic Valley, where Jerdon states he found it most abundant from Rajmahal to Monghyr, frequenting fields and long grasses. It winters in Sind and the Punjab. In Burmah Oates collected specimens a few miles south of Thayetmyo, and Colonel Lloyd at Tonghoo. Mr. Blanford found it on the Irrawady, and Davison in the neighbourhood of Paphoon. It frequents the neighbourhood of swamps and wet paddy fields.

**217. *Pratincola caprata* (Linn.),** *Blyth, J. A. S. B.* xvi. p. 129 ; *Bp. Consp.* i. p. 305 ; *Jerd. B. Ind.* ii. p. 123, No. 481 ; *Hume, Str. F.* 1873, pp. 182, 379 ; 1874, pp. 413, 477 ; 1875, p. 134 ; 1877, p. 229 ; 1876, p. 259 ; *Str. F.* 1875, p. 238 ; *Murray, Vert. Zool., Sind*, p. 141 ; *Oates, B. Br. Burm.* i. p. 281 ; *Blanford, Eastern Persia*, p. 144 ; *Murray, Hdbk., Zool.*,

*Ec.*, *Sind*, p. 145. *Motacilla caprata*, (*Linn.*) *S. Nat.* i. p. 325. *Cenante caprata*, *Viell. N. Dict.* xxi. p. 433. *Saxicola bicolor*, *Sykes, P. Z. S.* 1832, p. 92. *Pratincola atrata*, *Blyth, J. A. S. B.* xx. p. 177; *Ferd. B. Ind.* ii. p. 124, No. 482. *Pratincola bicolor*, *Hume, Nests and Eggs, Ind. B.* p. 314. —The WHITE-WINGED BLACK ROBIN.

*Adult Male*.—Head, neck all round, throat, breast, sides of the face, back, wings, tail and entire under surface black; under wing coverts black; vent, under tail coverts, rump, upper tail coverts and wing patch white; some of the feathers of the lower abdomen very slightly edged with white. The young male is dark brown, the feathers of the upper and lower surface with brownish edgings; the quills dark brown with whitish tips, and the lower abdomen, vent and upper tail coverts, as well as the wing patch, white. The female is dusky brown, the feathers edged pale, and with dark centres to the feathers of the head, scapulars and back; rump and upper tail coverts rufescent; tail dark brown, as also are the wing coverts and quills, but margined with lighter brown; beneath pale reddish or ochraceous brown, whitish on the throat; vent and under tail coverts white, with a slight rufous tinge; bill and legs black; irides dark brown.

*Length*.—5 to 5·4 inches; wing 2·75; tail 2·1; tarsus 0·8; bill at front 0·45.

*Hab*.—India generally, Ceylon, Southern India, Burmah, Java, and Philippines. In the Indian region it extends to the Himalayas, and is extremely common throughout Sind, the Punjab, Beloochistan, S. E. Persia and S. Afghanistan, at Chaman, Gulistan, Dubrai and Kandahar; also occurs all along the Western Coast, Kutch, Kattiawar, Jodhpore, North Guzerat, the Deccan and Concan. Breeds in Sind and the plains generally during March and April. Eggs usually three, pale greenish white, speckled finely with brown.

### Gen. *Poliomyias*.—*Sharpe*.

Bill rather broad, with well defined culmen, broader at the nostrils than it is high; shorter than in *Pratincola* and not exceeding the inner toe and claw. General aspect and style of plumage of *Muscicapa*, but with long wings.

**218. *Poliomyias Hodgsoni***, (*Verr.*) *Sharpe, Cat. B. Br. Mus.* iv. p. 203; *Oates, B. Br. Burmah*, i. p. 286. *Siphia Hodgsoni*, *Verr. N. Arch. Mus.* vi. *Bull.* p. 34, vii. p. 29; *David et Oust. Ois. Chine*, p. 115. *Siphia erythaca*, *Ferd. and Bl. P. Z. S.* 1861, p. 201; *Ferd. B. Ind.* i. p. 480, No. 322; *Hume, Str. F.* ii. p. 456; *Wald in Bl. B. Burm.* p. 103; *Hume, Str. F.* vi. p. 137; *Hume and Dav. Str. F.* vi. p. 233; *Hume, Str. F.* viii. p. 93.—The RUSTY-BREASTED FLY-CATCHER.

*Male*.—Above dull cyaneous, also the ear coverts; lores, feathers under the eye, the cheeks and upper tail coverts black; wing coverts brown, edged with

cyaneous; quills black, edged with brown; tail black, the bases of all but the two central feathers white at the base; sides of the neck and a patch on either side of the breast dull cyaneous; chin, throat, breast and abdomen rich orange; lower abdomen, vent, flanks and under tail coverts pale ferruginous. Bill black; legs and feet dark reddish horny; irides very dark brown. (Dav.)

*Length*.—5·5 inches; tail 2·2 to 2·5; wing 2·95; tarsus ·65; bill from gape ·55.

*Hab.*—Darjeeling (Jerdon), British Burmah and Nepal. According to Oates it has been procured in Karenne and in the Karin Hills, east of Tounghoo, at 4,000 feet elevation. Davison says it is confined to the higher hills of the northern and central portions of Tennaserim, and that he got it in the pine forests north of Pahpoo and near the summit of Mooleyit. It is found in the Himalayas, and extends its range to Western China.

The female of this species is not yet satisfactorily identified. There is a closely allied species *P. luteola*, which Oates says will probably be found in Burmah.

#### Gen. **Muscicapula**.—*Blyth*.

Bill feeble, narrow at tip, moderately wide at base, depressed, very slightly hooked and notched at the tip; rictal and nareal bristles moderately developed; 3rd quill nearly as long as 4th; 1st and 2nd primaries moderately developed; tarsus slightly lengthened.

**219. *Muscicapula superciliaris*, (Jerd.) Blyth, *J. A. S. B.* xii. pp. 939, 962; *Jerd. B. Ind.* i. p. 470, No. 310; *Stol. J. A. S. B.* xxxvii. pt. ii. p. 30; *Hume, Nests and Eggs*, p. 213; *Ball, Str. F.* v. p. 415; *Hume, Str. F.* viii. p. 92; *Sharpe, Cat. B. Br. Mus.* iv. p. 204; *Oates, B. Br. Burm.*, i. p. 292. *Muscicapula superciliaris*, *Jerd. Madr. Journ.* xi. p. 16. *Erythrosterina acornus* (Hodgs.), *Jerd. B. Ind.* i. p. 483, No. 325; *Beavan, Ibis*, 1870, p. 320; *Bl. and Wald., B. Burm.* p. 103; *Hume and Dav., Str. F.* vi. p. 233; *Hume, Str. F.* viii. p. 93.—The WHITE-BROWED BLUE FLY-CATCHER.**

Top of head, cheeks, ear coverts and sides of the neck dull blue; lores black; a broad distinct supercilium reaching behind to the nape white; back of the head, nape, entire upper plumage, including the lesser and median wing coverts, dull blue; greater wing coverts and quills dark brown, edged with pale bluish; tail black, edged with blue, the basal half of all, except the central ones, white; entire lower surface of body white, except a broad, dull-blue collar across the breast.

The female has the upper plumage brown, the feathers of the head centred darker, the forehead, rump and upper tail coverts tinged with rufous; wing coverts, quills and tail brown, edged paler; the lores mixed rufous and white;



ear coverts greyish brown with paler shafts; under surface of body sullied with brown on the breast and sides of the body.

*Length*.—4·25 to 4·75 inches; wing 2·4 to 2·5; tail 1·8 to 1·9; tarsus ·6; bill from gape ·6.

*Hab.*—Punjab, N. W. Provinces, Oudh, Bengal, Central Provinces, British Burmah and Nepaul. According to Jerdon it is found throughout the Himalayas, spreading to the plains of India in the cold weather, but is nowhere a common bird. Mr. Brooks reported its occurrence at Assensole; Ball says it is tolerably abundant in Sumbulpoor and in the adjoining districts on the south, and records it from Midnapoor, Lohardugga, Singhboom, Orissa, Nowagurh, and the Godavery Valley; and Oates has it from British Burmah, on the strength of two female specimens from Karenne, procured by Captain Wardlaw Ramsay.

The White-browed Blue Fly-Catcher nests in the Himalayas. The nest is a small cup made of moss, and lined with fine roots and hairs, and is either placed in a hole of a tree or wall. The eggs are 4 to 6 in number, pale green, and entirely covered with brownish red freckles.

**220. *Muscicapula astigma*, (Hodgs.) Sharpe, Cat. B. Br. Mus.** iv. p. 205; *Jerd. B. Ind.* i. p. 471, No. 311; *Gray, Cat. B. Nepaul*; *Hodgs. Coll. app.* p. 155; *Ball, Str. F.* vii. p. 212; *Oates, B. Br. Burm.* i. p. 293.—The LITTLE BLUE and WHITE FLY-CATCHER.

Differs from *M. superciliaris* in having the whole upper surface blue, the wings and tail black, margined with blue—the latter with no white at the base—no white supercilium, and in the under surface being pure white.

*Length*.—4·25 inches; wing 2·25; tail 1·8; tarsus ·5; culmen 0·45.

*Hab.*—N.-W. Provinces and Bengal to the Himalayas and Nepaul.

The females of the species of this small group of birds are so alike that they cannot be readily distinguished, especially of *M. superciliaris*.

**221. *Muscicapula maculata*, Tick. J. A. S. B.** ii. p. 574; *Sharpe, Cat. B. Br. Mus.* iv. p. 207; *Oates, B. Br. Burm.* i. p. 294. *Erythrosterina maculata*, *Jerd. B. Ind.* i. p. 483, No. 326; *Bl. B. Burm.* p. 103; *Brooks, Str. F.* iii. pp. 236, 277; viii. p. 470; *Hume, Str. F.* viii. p. 93. *Erythrosterina pusilla*, *Bl. J. A. S. B.* xviii. p. 813; *Jerd. B. Ind.* i. p. 482, No. 324; *Brooks, Str. F.* v. p. 471.—The LITTLE-PIED FLY-CATCHER.

Above, including the lores, cheeks, ear coverts and sides of the neck glossy black; a superciliary streak reaching to the nape white. Whole under surface also white; wings black; the later secondaries edged with white on their outer webs, the remaining secondaries and all the primaries with an interior

lining of white; the greater upper wing coverts white, forming a bar across the wing; tail black, the basal two-thirds, except of the central tail feathers, white.

The female has the upper surface and lesser wing coverts olive brown, tinged with rufous; upper tail coverts ferruginous; greater wing coverts and quills brown, margined with pale rufous brown; lores and sides of the head fulvescent brown; under surface of body white, tinged with brown on the flanks and breast; tail dark brown, narrowly margined with rufous brown; no white bases to the feathers of the tail.

Bill black; legs brown; irides light brown.

*Length.*—4·4 inches; wing 2·4; tail 1·75; tarsus 0·6; bill from gape 0·55.

*Hab.*—N.-W. Provinces, Central India, Bengal, and British Burmah.

Taking Jerdon's notes on *Erythrosterna pusilla*, which is now identified with the female of this species, and the notes against *E. maculata*, the Little-pied Fly-Catcher occurs in the plains of Central India during the cold weather and retires to the Himalayas during the summer. He says he obtained it near Darjeeling in summer dress, and quotes Blyth as to its occurrence in the Midnapoor District. It extends through Arrakan and Tenasserim into Western Malasia. It also occurs at Pegu in the cold weather. Jerdon saw this species in pairs, but generally in small parties, active and restless, capturing insects entirely on the wing. It has a pleasing little song.

**222. *Muscicapula sapphira*, Tickell, MSS.; Blyth, J. A. S. B. xii. p. 939; Jerdon, *Illus. Ind. Orn.* pl. 32; *id. B. Ind.* i. p. 471, No. 312; *Str. F.* iii. p. 237; *Ball, Str. F.* ii. p. 405; *Sharpe, Cat. B. Br. Mus.* iv. p. 209.**—THE SAPPHIRE-HEADED FLY-CATCHER.

*Male.*—Above rich dark purplish blue, inclining to smalt blue on the rump and upper tail coverts; forehead and crown pale azure or sapphire blue (*vivid smalt blue*, Blyth), deepening on the hind head; lores black; foreneck and breast rich purple, with a broad median line of deep and bright ferruginous; flanks greyish; belly and forepart of the wings underneath, also the axillaries, white; quills and tail black, and the feathers edged externally with blue; there is no white at base of the feathers of the latter.

Bill and feet black; irides dark brown.

The female has the head, neck and interscapulars plain olive brown; forehead, lores and cheeks ferruginous; wings, rump and tail deep blue; throat, foreneck and breast bright ferruginous, much broader than in the male; belly and lower tail coverts bluish white.

*Length.*—4·75 inches; wing 2·5; tail 1·9; tarsus 0·6; culmen 0·35.

*Hab.*—N.-W. Provinces, Oudh, Bengal, also Sikkim and Nepaul. Jerdon says it is somewhat rare at Darjeeling, and that the species affects open forest, perches high up, and catches insects on the wing.

Gen. **Tarsiger**.—Hodgs.

Bill short, slender, straight; rictal bristles moderate; wings moderate; 4th and 5th quills equal and longest, 3rd and 6th subequal; tail slightly mucronate; tarsus extremely powerful, more than twice the length of the culmen; toes and claws long and slender; plumage of males blue above, and more or less rufous below.



**223. Tarsiger rufilatus**, Hodgs. *Icon. ined. Passeres*, pl. 88; *id. P. Z. S.* 1845, p. 27; Gray, *Gen. B.* i. p. 180; Hume, *Nests and Eggs*, Ind. B. p. 324; Sharpe, *Cat. B. Br. Mus.* iv. p. 256. *Nemura cyanura*, Hodgs. *Icon. ined. Passeres* pl. 76, fig. 3. *Ianthina rufilata*, Bly. *J. A. S. B.* xvi. p. 132, *id. Ibis*, 1867, p. 16; Brooks, *Str. F.* 1875, p. 240; 1876, p. 229; 1877, p. 470. *Ianthina cyanura*, *Ferd. B. Ind.* ii. p. 146, No. 508; *Godw.-Austen, J. A. S. B.*, 1870, p. 106. *Nemura cyanura*, (Pall) Dresser, *B. Eur.* pts. lxvii. lxviii. (♂ ad. desc. et. fig.) *nee. Pall.*—THE WHITE-BREASTED BLUE WOOD-CHAT.

**Adult Male**.—General colour above dark ultramarine, brighter and inclining to deep cobalt blue on the rump and upper tail coverts; forehead also bright cobalt, extending backwards and forming a distinct eyebrow; shoulder patch bright cobalt blue; rest of wing coverts and quills blackish, edged with dark ultramarine, the margins of the primaries somewhat greyish blue; tail feathers blackish on their inner webs and dark blue on the outer; lores and feathers round the eye dusky blue black; the sides of the face dark blue, also the feathers bordering the throat for the whole extent of the latter; throat and centre of body below greyish white, pure white on the abdomen and under tail coverts; sides of the body bright orange; thighs dull blue; under wing coverts and axillaries white, slightly washed with fulvous; edge of the wing blue; bill dusky; legs brown; iris dark brown.

**Length**.—5·75 to 6·5 inches; wing 3·2; tail 2·5; tarsus 0·95; culmen 0·45.

The adult female is olive brown above, becoming ashy blue on the rump and bright cobalt on the upper tail coverts; the lesser and median wing coverts like the back; greater coverts and quills dark brown, margined with reddish olive; tail blackish on the inner webs and blue on the outer; throat, lores and round the eye buffy; eyebrow faint greyish; sides of the face, foreneck, breast and flanks olive brown; middle of abdomen and under tail coverts white; thighs dusky; sides of the body bright orange; axillaries yellowish buff; under wing coverts whitish with dusky bases.

**Length**.—5·2 inches; wing 3·15; tail 2·5; tarsus 0·95; culmen 0·45.

*Hab.*—The Himalayas, from the N. W. to Sikkim. Said to be common in China and Central and Northern Asia, also Japan. It is recorded from Nepaul and Cashmere, and from between Mussoorie and Gangaotri. Jerdon says it is a winter visitant at Darjeeling. It frequents thick brushwood and long grass. Found on the banks of the Ganges at Caragola Ghat. In Cashmere, according to Brooks, it is more numerous in the upper part of the valley. Its call-note and manners, he says, are like those of a robin. It is a very shy bird. It breeds very high up in the hills north of Simla, but in Cashmere they are said to breed as low as 6,000 feet during June and July, nesting in holes of banks. The normal number of eggs is 4, of a bluish white colour, faintly marked towards the larger end with pale reddish brown. Size  $0\cdot74 \times 0\cdot56$ .

**224. Tarsiger hyperythrus**, *Blyth, J. A. S. B.* xvi. p. 132; *id. Cat. B. Mus. A. S. B.* p. 170; *Jerd. B. Ind.* ii. p. 147, No. 509; *Sharpe, Cat. B. Br. Mus.* iv, p. 257; *Godw.-Austen, J. A. S. B.* 1870, p. 106. *Nemura hyperythra*, *Gray, Gen. B.* iii. *App.* p. 8; *Bp. Consp.* 1, p. 300.—The RUSTY-THROATED BLUE WOOD-CHAT.

*Adult Male.*—Above dark purplish or indigo blue; the forehead brighter and more cobalt blue, *extending backward over the fore part of the eye; no white eyebrow*; shoulder patch deep cobalt; rest of wing coverts and quills dusky blackish, externally edged with purplish blue; lores, ear coverts, sides of the face, feathers round the eye and sides of the throat deep purplish black; entire under surface of body chestnut rufous; thighs brown; lower flanks whitish, forming a tuft on each side of the back; axillaries and under wing coverts yellowish buff; bill dusky; legs brown.

*Length.*—4·8 to 5·5 inches; wing 3·15; tail 2·3; tarsus 1; culmen 0·45.

The female is brown above, the lower back and rump greyish, the upper tail coverts and tail blue; median and greater wing coverts brown like the back; quills dark brown, edged lighter; a faint greyish blue eye streak on the side of the crown; ring round the eye fulvous; ear coverts, sides of face and under surface of body rufescent brown; middle of abdomen and under tail coverts whitish; under wing coverts and axillaries yellowish buff.

*Length.*—5 inches; wing 2·95; tail 2·2; tarsus 1; culmen 0·4.

*Hab.*—The Eastern Himalayas and Khasia Hills. Recorded from Nepaul and Darjeeling.

This is a rare species, and supposed to be a migrant. Nothing is known of its nidification.

**225. Tarsiger hodgsoni**, *Moore, P. Z. S.* 1854, p. 76, pl. 62. *Nitidula campbelli*, *Jerd. and Blyth, P. Z. S.* 1861, p. 201. *Nitidula hodgsoni*, *Jerd. B. Ind.* i. p. 472, No. 313. *Niltava hodgsoni*, *Gray, Hd. L. B.* i. p. 327.—The PIGMY BLUE FLY-CATCHER.

Above deep ultramarine, brighter and more cobalt on the forepart of the crown and over the eye; a broad frontal line, lores, feathers round the eye, sides of face and ear coverts black, the latter with a bluish tinge; scapulars and wing coverts deep ultramarine blue like the back; the primary coverts and primaries narrowly edged with blue, their inner webs brown; cheeks and under surface of body rich orange yellow, slightly paler on the abdomen; the thighs and under tail coverts whitish; tail blackish, washed with blue externally; axillaries, sides of breast and under wing coverts pure white. (Sharpe.) Bill black; legs pale reddish; iris dark brown. (Jerd.)

*Length*.—3·6; wing 1·85; tail 1·4; tarsus 0·6; culmen 0·4.

The female is yellowish olive brown above, rather rufous on the rump and upper tail coverts; wings like the back; quills dark brown, edged externally with the same yellowish olive brown of the back; tail brown, washed externally with rufous brown; lores and sides of the face ochraceous buff, as also a ring of feathers round the eye; ear coverts washed with olive; cheeks and under surface of the body pale saffron yellow, deeper on the flanks; middle of abdomen, sides of the body, under wing and under tail coverts white.

*Length*.—3·7 inches; wing 1·8; tail 1·35; tarsus 0·65; culmen 0·4.

*Hab.*—The Eastern Himalayas, from Darjeeling to Sikkim and Nepal, Entirely confined to the Himalayas.

**226. *Tarsiger indicus*, Vieill. N. Dict. d'Hist. Nat. xi. p. 267.** *Nemura flavo-olivacea*, *Hodgs. P. Z. S.* 1845, p. 27. *Tarsiger superciliaris*, *Hodgs. Icon. ined. Passeres, App. pl. 57*; *Moore, P. Z. S.* 1854, p. 76; *Swinh, P. Z. S.* 1871, p. 359. *Ianthina flavo-olivacea*, *Blyth, J. A. S. B.* xvi. p. 133. *Erythaca flavo-olivacea*, *Gray, Cat. Mam. &c., Nepal; Bly. Cat. B. Mus. A. S. B.* p. 171. *Ianthina superciliaris*, *Jerd. B. Ind.* ii. p. 148.—The RUFOUS-BELLIED BLUE WOOD-CHAT.

*Adult Male*.—Above dark slaty blue grey, some of the feathers on the sides of the rump tipped with yellowish buff; sides of the crown white, forming a very broad white eyebrow, extending from the base of the bill to the sides of the nape; lores, and sides of the face black, the latter slightly washed with slaty grey; wing coverts yellowish brown, the innermost of all the series slaty blue; greater coverts and quills blackish brown, externally edged with yellowish brown, the inner secondaries with slaty blue; tail dark slaty blue, blackish on the inner webs; under surface of body orange rufous, whiter on the middle of the abdomen; bill brownish; feet reddish grey; iris brown.

*Length*.—5 inches; wing 3·1; tail 2·5; tarsus 1·1; culmen 0·5.

The female differs from the male in being ochraceous brown above; the wings margined with rusty olive; eyebrow white, but not so distinct as in the male; sides of face olive brown, with fulvous shaft lines; under surface of body deep ochraceous brown; chin whitish.

*Length*.—5·3 inches; wing 2·85; tail 2·4; tarsus 1·1; culmen 0·45.

*Hab.*—S. E. Himalayas. Rare in Sikkim and Nepaul. Fairly common about Darjeeling.

**227. *Tarsiger chrysæus*, Hodgs. Icon. ined. Passeres, pl. 80; id. P. Z. S. 1845, p. 28; Ferd. B. Ind. ii. p. 149; Hume, Nests and Eggs, Ind. B. p. 325.**—The GOLDEN BUSH-CHAT.

*Adult Male*.—Above orange yellow, the scapulars and feathers of the lower back with olive brown tips; crown of the head, hind neck and mantle olive brown, inclining to rufous olive on the head; a narrow frontal band, *lores*, *feathers round the eye and ear coverts black*; supercilium orange yellow; lesser and median wing coverts black, with mesial streaks of golden yellow near the tips of the feathers; greater series and quills black, externally edged with orange brown; the innermost greater series entirely orange yellow; *tail particolored*, yellow with a broad terminal band of black on all but the two centre feathers, which are entirely black, and orange yellow only at the base; entire under surface of body orange yellow, some of the feathers on the sides of the breast edged with black; under wing coverts yellow; under surface of quills brown, yellowish buff along the inner webs; bill blackish above; lower mandible yellow; iris dark brown.

*Length*.—5 to 5·75 inches; wing 2·75 to 2·8; tail 2·25; tarsus 1·3; culmen 0·6.

The female is olive yellow, or olivaceous above; orbital ring whitish; supercilium and *lores* dull yellow; ear coverts olive brown, with whitish shaft streaks; cheeks and under surface of body deep ochraceous yellow; lower abdomen whitish.

*Length*.—5 inches; wing 2·6; tail 2; tarsus 1·2.

*Hab.*—The Himalayas. Recorded from Nepaul and Sikkim, and also Darjeeling, where Jerdon says it is not uncommon and is a permanent resident. It keeps to the forest in the valleys amongst thick underwood. Hodgson says it is shy, solitary, and bush-loving. It breeds in the central regions of the mountains of Nepaul, making a compact saucer-like nest of moss on the ground under the roots of a tree, under stone, or in holes in banks. The breeding season is from May to August. Eggs, 3—4 in number, of a verditer-blue colour; size 0·72 × 0·5.

### Gen. *Hypothymis*.—*Boie*.

Bill of moderate length, broad, triangular, suddenly narrowed, straight, tip hooked, and with a distinct notch; rictal bristles numerous; nostrils with a few hairs above it; 4th and 5th quills of wing subequal and longest; tarsus short; head with scale-like velvety plumes.

**228. *Hypothymis azurea*, Bodd, Tab. Pl. Enl. p. 41; Sharpe, Cat. B. Br. Mus. iv. p. 274; Oates, B. Br. Burm. i. p. 265.** *Myiagra*

azurea, *Jerd. B. Ind.* i. p. 450, No. 290; *Hume, Nests and Eggs*, p. 198; *id. Str. F.* ii. p. 217, iii. p. 103; *Fairbank, Str. F.* 1876, p. 257; *Armstrong, l. c.* p. 322; *Hume, l. c.* p. 395; *Bl. and Wald., B. Burm.* p. 131.—**THE BLACK-NAPED BLUE FLY-CATCHER.**

**Adult Male.**—A patch on the nape, a narrow frontal line, chin and a crescentic band across the fore neck black; sides of the face, throat and fore-neck light azure blue; rest of under surface white, washed with bluish; the whole remaining plumage with the lesser wing coverts blue; greater wing coverts black, externally edged with blue; wings brown, narrowly edged with blue; tail brown, suffused with blue on the central pair of feathers and on the outer webs of the others; and with either a very narrow nearly obsolete white tip, or this is wanting; bill dark blue or plumbeous, the edges and tip black; inside of mouth yellow; legs plumbeous; iris dark brown; edges of eyelids blue.

**Length.**—5·8 to 6·4 inches; wing 2·8; tail 2·85 to 3; tarsus 0·7; culmen 0·55 to 0·75.

The female has the head above azure blue, the sides of the head, chin and throat duller; breast greyish brown; abdomen, flanks and under tail coverts white, tinged with grey; wings, black; rump and upper tail coverts brown; tail darker brown, the outer edges washed with blue and all but the central feathers tipped with white.

**Length.**—6·5 inches; wing 2·95; tail 3; tarsus 0·7.

**Hab.**—India generally, ranging through the Burmese countries to Pegu, Tenasserim, and the Malay Peninsula; also China, Cochin-China, and the Indo-Burmese countries and Ceylon. Occurs in the Punjab, N. W. Provinces, Oudh, Bengal, Central India, the Concan, Deccan, South India, Pegu, British Burmah generally, and Nepaul. It affects every description of jungle, also gardens orchards, and bamboo groves. It is an active bird and ever on the move, darting on insects and capturing them on the wing. Jerdon says it is almost always solitary, flying from tree to tree. It breeds in the low, warm, well-wooded valleys of the sub-Himalayan ranges up to 3,000 feet, from May to August. The nest is a delicate cup, made of green grass and coated with cobwebs, and is generally placed in the fork of a tree, or a bamboo, not far from the ground. The eggs, 3 to 4 in number, are white, or white with a salmon tinge, speckled and spotted with pale red and purple, or reddish pink; size 0·69 × 0·53.

**229. *Hypothymis occipitalis*, Vigors, P. Z. S. 1831, p. 97; Sharpe, Cat. B. Br. Mus. iv. p. 275. *Myiagra tyleri*, Beavan *Ibis*, 1867, p. 324; *Hume, Str. F.* 1874, p. 217. *Hypothymis azurea* (nec: Bodd) *Walden, Ibis*, 1872, p. 102; *Oates, Str. F.* 1877, p. 149; *Sharpe, Ibis*, 1887, p. 18; *id. Tr. Lin. Soc. n. s. i.* p. 235; *Tweedale, P. Z. S.* 1877, pp. 693, 760, 825 *et.* 1878, p. 284.—**THE ALLIED BLACK-NAPED BLUE FLY-CATCHER.****

*Adult Male*.—Above rich deep azure blue, brighter on the head, where the feathers are of a velvety texture; a frontal line, chin and a nuchal patch black; wing coverts like the back; quills and tail and the remaining plumage as in *H. azurea*, except that the under surface is greyish purple instead of white on the breast, abdomen, and under tail coverts; bill blackish blue; iris dark brown.

*Length*.—5·8 inches; wing 2·7; tail 2·6; tarsus 0·6; culmen 0·5.

The adult female differs from the male, as does the female of *H. azurea*, i.e., it has the back brown, with the head dull azure, the black nape spot being absent; the abdomen is whitish and overspread with a shade of bluish grey.

*Hab*.—The Andaman and Nicobar Islands, Malay Peninsula, Sumatra, Borneo, Philippine Islands, and Port Blair. Occurs also probably in Tenasserim.

Having had before me a series of skins of both *H. azurea* and *H. occipitalis*, I am inclined to give the present form specific distinction. Call it a race or a subspecies, but the constancy of the markings of the under surface and the brighter colouring of the upper parts are sufficient characters. *Hume* (*Str. F.* ii. p. 217) says the Andamans birds do not differ from the Indian ones in dimensions, but that the typical adult male of this species has not a particle of white about the abdomen, vent and under tail coverts. The female, too, has a dingy lilac grey abdomen, instead of the pure white of the female of *H. azurea*.

A nest of this species was found at Aberdeen, South Andamans, on the 23rd April. "It was fastened to the branch of a small tree that overhung the path. In shape it was an inverted cone, three inches in depth exteriorly and two and a half inches in diameter; the cavity, which is nearly hemispherical, was two inches in diameter and 1·1 in depth. The nest is very compactly woven, of soft vegetable fibre, with which also it is firmly bound against the slender stem to which it is attached. Towards the exterior of the nest a good deal of green moss, a number of satiny white cocoons, and a little bright ferruginous fern root have been incorporated in the nest, and the whole carefully coated, though not thickly so, with gossamer threads and spider's webs, and the cavity of the nest is neatly lined with black hair-like moss roots.

The eggs were three in number, very similar to those of *H. azurea*, but perhaps more strongly marked; in shape they are regular broad ovals; the shell is smooth and fine, and has a faint gloss. The ground colour varies from pinky to creamy white, and towards the larger end there is a broad irregular zone of red or brownish red specks or spots. The eggs measured 0·67 to 0·68 × 0·52 to 0·53."

#### Gen. *Xanthopygia*.—*Sharpe*.

Bill broad, the culmen equal to only twice the breadth of the bill at nostrils; tarsus moderate; tail long; 1st primary short, about one-third the length



of the 4th; the 5th and 6th quills subequal; feet moderate; claws slender, moderately curved.

**230. *Xanthopygia fuliginosa*, (Vig.) Sharpe, Cat. B. Br. M. iv. p. 253.** *Phoenicura fuliginosa*, Vig. P. Z. S. 1831, p. 35; *Blyth, J. A. S. B. xi. p. 190.* *Phoenicura rubicauda*, *Hodgs. in Gray's Zool. Misc. p. 82.* *Ruticilla fuliginosa*, Gray, Gen. B. i. p. 180; *Blyth, J. A. S. B. xvi. p. 134; Moore, P. Z. S. 1854, p. 29; Jerd. B. Ind. ii. p. 142.* *Ruticilla plumbea*, *Blyth, J. A. S. B. xvi. p. 134.* *Rhyacornis fuliginosa*, *Blanford, J. A. S. B. xli. pt. i. p. 51; Bl. and Wald. B. Burm. p. 101; Brooks, Str. F. 1875, p. 240; Inglis, Str. F. 1877, p. 37.* *Nymphæus fuliginosus*, *Hume, Nests and Eggs, Ind. B. p. 322; Oates, B. Br. Burm. i. p. 284.*—The PLUMBEOUS WATER-ROBIN.

*Male*.—The whole plumage dull cyaneous; upper and lower tail coverts, vent and tail bright chestnut; wings black, edged externally with bluish or light slaty grey; a frontal line and feathers in front of the eye blackish; bill black; gape fleshy white; irides dark brown; feet dark horny brown; claws black.

*Length*.—4·5 inches; wing 3·05; tail 2·1; tarsus 0·9; culmen 0·45.

The female is dull bluish brown above, the upper and under tail coverts white; tail feathers white at base, brown at the tips, the white increasing obliquely toward the outer tail feather, which is entirely white, except a narrow edging along the outer web and a small brown tip to the inner one; two centre tail feathers rufous brown; wing coverts like the back, and tipped with a small spot of ashy white; primary coverts dark brown; lores buffy white, mottled with dusky bases to the feathers; orbital ring of feathers dull rufous; ear coverts dull ashy brown, with broad white shaft streaks; whole lower plumage ashy brown, each feather centred with whitish and margined with paler ashy; tertiaries brown, edged with rufescent and tipped with whitish.

*Length*.—4·5 inches; wing 2·6; tail 1·9; tarsus 0·85; culmen 0·45.

*Hab*.—The Himalayas, ranging to China and Mongolia. It is found in South China, the hill tracts of Eastern Bengal, and along the whole range of the Himalayas from Assam to the North-West.

According to Jerdon it lives entirely along rivers and mountain-torrents, and may often be seen on a wet and slippery rock just above a boiling rapid; it climbs up the wet rocks with great facility, and, every now and then alighting on a rock, it spreads its tail, but does not vibrate it like some of the Redstarts. Its flight is rapid and direct. It feeds on various aquatic insects and larvæ, some kinds of which are always found just at the edge of the water, and which a wave often leaves behind it on a rock. The nest, made chiefly of moss, is placed on the shelf of a rock, or in a hole in a bank, and the eggs, 3 to 5 in number, are faint green, marked with pale reddish brown.

Gen. **Oreicola**.—*Bonap.*

Bill much as in *Pratincola*, but longer and deeper, and barely depressed at base; nostrils rounded, situated in a groove, with a few nareal bristles covering them; rictus strongly bristled; second primary longer than the secondaries; wing rounded, about equal to the tail in length; 1st quill short; 2nd, 3rd and 4th graduated, the 4th longest.

**231. Oreicola Jerdoni**, *Blyth, Ibis*, 1867, p. 14; *Beavan, l. c.* p. 449; *Blanford, Ibis*, 1870, p. 466; *Blyth and Walden, B. Burm.*, p. 101; *Sharpe, Cat. B. Br. Mus.* iv. p. 264. *Rhodophila melanoleuca*, *Jerd. B. Ind.* ii. p. 128; iii. p. 872, No. 487.—THE BLACK AND WHITE BUSH-CHAT.

Entire plumage above, including the thighs, glossy black; entire under surface pure white; under wing coverts and axillaries black, with broad white edgings; bill and legs black; iris dark brown.

*Length*.—5·4 inches; wing 2·55; tail 2·6; tarsus 0·8; culmen 0·5.

The female is brown above, tinged with rufous, especially on the rump and upper tail coverts; tail brown, edged paler; wings and their coverts brown, edged with rufous; sides of the head mixed ashy and brown, the top of head with dark centres; under surface of body uniform pale fulvous; thighs brown; under wing coverts brown; axillaries ashy, tinged with fulvous.

*Length*.—5·2 inches; wing 2·5; tail 2·5; tarsus 0·8; culmen 0·5.

*Hab.*—N. W. Provinces, Oudh, Bengal, and British Burmah. Jerdon procured this species in Purneah, near the banks of the Ganges, and subsequently along the reedy edge of some of the rivers in Eastern Bengal and Cachar. Mr. W. Blanford obtained it in Burmah in long elephant grass, and Dr. Anderson found it near Bhamo in Upper Burmah.

**232. Oreicola ferrea**, *Hodgs. in Gray's Misc.* p. 83; *Sharpe, Cat. B. Br. Mus.* iv. p. 266; *Oates, B. Br. Burm.* i. p. 283. *Saxicola ferrea*, *Hodgs. Icon. ined. Passeres*, pl. 97. *Pratincola ferrea*, *Bly. J. A. S. B.* xvi. p. 129; *Jerd. B. Ind.* ii. p. 127, No. 486; *Hume, Nests and Eggs*, p. 318; *Hume and Henderson, Lahore to Yarkand*, p. 205, pl. xii; *Bl. B. Burm.* p. 101; *Hume, Str. F.* iii. p. 135; *Brooks, Str. F.* iii. p. 239; *Hume, Str. F.* viii. p. 99; *Scully, Str. F.* iii. p. 301.—THE DARK-GRAY BUSH-CHAT.

*Male*.—Entire head above, back and scapulars black, each feather with a broad edging of deep grey; sides of the head and chin black; rump grey without any black; upper tail coverts black, edged with grey; wings black, each feather of the coverts and tertiaries broadly, and the primaries and secondaries narrowly edged with grey, the inner median coverts tipped with white, the inner greater coverts wholly white; tail black, edged with grey on both webs; supercilium whitish; lower plumage white, with a greyish tinge on the breast and flanks. *In winter dress* males have the feathers of the upper plumage fringed with rusty, and the black centres to the feathers indistinct; rump

grey; rest of plumage as in summer. The female is the same throughout the year. The whole upper plumage is reddish brown, turning to chestnut on the upper tail coverts; the wings and tail are brown, broadly edged with chestnut brown; the sides of the head are reddish brown, mottled with black; the chin and throat are whitish; the remainder of the lower plumage buffy, more or less pure, according to the age of the plumage.

*Length*.—5·2 inches; wing 2·55; tail 2·45; tarsus 0·85; culmen 0·55.

*Hab.*—India and the Burmese countries, ranging eastward into China. (Sharpe.) According to Jerdon it is found throughout the whole extent of the Himalayas, and is tolerably common about Darjeeling. It has been recorded from Arrakan, from Prome in Pegu, and Tounghoo in the hills, also from Karin. Davison says it is rare in the northern portions of Tenasserim. He procured specimens in the pine forests of Salween, and Captain Bingham in the Thoungyeen Valley. It is also recorded from the N. W. Provinces of India, Oudh, Bengal, and Nepaul.

The Grey Bush-Chat is said to affect the outskirts of forests and brushwood. It has a pleasing song. Breeds throughout the Himalayas from Murree to Bhootan during April and May, also June and July, two broods being reared in the same nest. The nest is placed on the ground under a dense bush, or in a hole in a bank; it is cup-shaped, and is composed of grass, twigs or moss, and lined with fine grass roots, horse-hair or fur. Eggs 4 to 5 in number, similar to those of *Pratincola maura*.

#### Gen. *Chelidorynx*.—Hodgs.

Bill short, broad, suddenly compressed at tip, much deflected and barely notched; nostrils covered by long and fine nareal bristles; gape with long rectal bristles; wings rounded; the 1st four quills graduated; tail long, rounded, firm; tarsus rather short; feet feeble; lateral toes slightly unequal. (Jerd.).

**233. *Chelidorynx hypoxantha*, Blyth, J. A. S. B. xii. p. 935; Hodgs., Drawing, No. 386; Jerd. B. Ind. i. p. 455, No. 294; Hume, Nests and Eggs, p. 204; Wald. in Blyth, B. Burm. p. 132; Hume, Str. F. viii. p. 93; Scully, Str. F. viii. p. 275; Sharpe, Cat. B. Br. Mus. iv. p. 279; Oates, B. Br. Burm. i. p. 269.**—The YELLOW-BELLIED FANTAIL.

Forehead, a broad supercilium, and the whole lower plumage bright yellow; lores, feathers round the eye, cheeks and ear coverts dark brown, tinged with green, the shafts of the latter whitish; tail brown with conspicuous white shafts, and all the feathers, except the central ones, tipped with white; upper plumage and wing coverts olive brown; wings brown, narrowly margined with olive brown; bill black above, the lower mandible yellow; irides brown; gape orange; feet brownish reddish. (Jerd.)

*Hab.*—Eastern Himalayas, Khasia Hills, and Burmah.

The Yellow-bellied Fantail has been found at Darjeeling, in Bhootan, between Simla and Mussoorie, and throughout the Indo-Burmese countries. Dr. Jerdon says: "This pretty little Fantail is found in Nepaul, Sikkim, and Bhootan. It affects high altitudes from 6,000 to 8,000 feet and upwards. It frequents the skirts of large woods and low trees by the roadsides, either in pairs or small flocks. It is very lively and active, making short sallies after insects with a low pleasant twitter." A nest brought to him after the young had flown was an exceedingly neat deep cup, made of moss and lichens, also hair and wool, well carded into a compact structure. The breeding season (*vide Hume, Nests and Eggs*) is May and June. Eggs white, faintly speckled.

**Gen. *Rhipidura*.—Vig. and Horsf.**

Plumage of the head full, no elongated crest; bill rather long, depressed, wide, except at tip, which is slightly hooked and notched; nostrils overhung by long nareal bristles; rectal bristles long and slender; wings with the first 4 quills unequally graduated; tail lengthened, rounded or graduated; tarsus moderate; lateral toes unequal.

**234. *Rhipidura albicollis*, Vieill. N. Dict. d'Hist. Nat. xxvii. p. 130; Sharpe, Cat. B. Br. Mus. iv. p. 317; Oates, B. Burm. i. p. 266. *Rhipidura fuscoventris*, Frankl. P. Z. S. 1831, p. 117; *Jerd. Ill. Ind. Orn.* (text to pl. ii); *Blyth, J. A. S. B.* xii. p. 935, xv. p. 290; *Jerd. B. Ind.* i. p. 451, No. 291; *Cock. and Marsh., Str. F.* 1873, i. p. 352; *Ball, Str. F.* 1874, p. 404; *Brooks, Str. F.* 1875, p. 235. *Leucocerca fuscoventris*, *Hume, Nests and Eggs, Ind. B.* p. 200, No. 291. *Leucocerca albicollis*, *Wald. in Blyth, B. Burm.* p. 132; *Hume, Str. F.* iii. p. 103; *Cripps, Str. F.* vii. p. 276; *Hume, Str. F.* viii. p. 92; ix. p. 174 (footnote).—The WHITE-THROATED FANTAIL.**

Crown, lores, sides of the head, face and chin deep black; supercilium white; throat extending to the sides of the neck white, the bases of the feathers black, causing the white to appear dull; rest of the plumage dark sooty brown, paler on the wing; tail dark brown, all but the central pair of feathers broadly tipped with white; bill and legs black.

*Length*.—7·5 inches; wing 2·9 to 3·1; tail 4; tarsus 0·7 to 0·75; culmen 0·7.

The young are browner in colour, the feathers tipped with rufescent, the under surface washed with the same at the edges of the feathers.

*Hab.*—India and Burmah, also Cashmere and throughout the Himalayas.

The White-throated Fantail is spread over nearly all India. It is found in the Punjab, N. W. Provinces, Oudh, Bengal, Central India, the Deccan, parts of South India, in British Burmah and Nepaul. Jerdon says: "It is very abundant at Darjeeling in the spring and summer, descending to the valleys and plains in winter. According to Oates it is spread sparingly over the whole of Pegu, and as in India generally a permanent resident. It has been procured in the

Karin Hills. Davison got it in Tenasserim, where he says it is apparently confined to the forests of the outer Tenasserim range and adjacent spurs. It is said to occur commonly in Arrakan, also in Sikkim. It is generally seen in pairs flitting restlessly about trees, catching small insects on the wing; has a sharp twittering note not unlike that of *M. paradisi*, and is continually snapping its beak, going from branch to branch with a short, jerky, tumbling flight. It has the peculiar habit of dancing about with tail outspread.

The Fantail breeds throughout India and in the wooded sub-Himalayan tracts, also in all the warmer valleys of the outer Himalayan ranges from Debrooghur to Murree, in Eastern and lower Bengal, and in the forest districts of Central India, in Raipoor, and the tributary mehals, and doubtless in suitable localities throughout Southern India. The breeding season lasts from May to July. The nest is a solid, compact, tiny structure, made of grass and coated with cobwebs, and placed in a fork of a tree not far from the ground. In shape it is like an inverted cone. The eggs, three in number, are oval, fawn-yellowish or greenish white, marked with grey specks and spots; size  $0.65 \times 0.49$ .

*Rhipidura perlata* (S. Mull.) is described from Borneo and Sarawak, but as it is not certain whether the specimens were from the portions of country belonging to the British, it is not included in the Avifauna. The upper surface is of a dark slate colour, duller on the external edges of the wing coverts; upper tail coverts black; cheeks, throat and breast slaty grey spotted with white, the latter with large ovate spots; centre of abdomen and under tail coverts white.

*Hab.*—The Malay Peninsula, Java, Sumatra and Borneo.

**235. *Rhipidura javanica*, Sparrm., Mus. Carls. iii. pl. 75; Sharpe, Cat. B. Br. Mus. vi. p. 332; Oates, B. Br. Burm. i. p. 267. *Leucocerca javanica*, Salvad. Ucc. Borneo, p. 135; Bl. B. Burm. p. 132; Hume and Dav., Str. F. vi. p. 226; Hume, Str. F. viii. p. 92; ix. p. 175 (footnote). *Leucocerca infumata*, Hume, Str. F. i. p. 455; Tweed, Ibis, 1877, p. 316.—The JAVAN FANTAIL.**

*Male.*—Forehead, crown and sides of the head sooty brown; the whole upper plumage and the wings brown, washed with rufous; tail dark brown, the four outer pairs of feathers broadly tipped with white, the pair next these narrowly tipped white; supercilium white; chin and a band across the upper breast blackish brown; flanks, thighs and axillaries brown, the latter broadly edged with white; under wing coverts mixed black and white; the rest of the lower plumage white; bill black, fleshy at base of lower mandible; irides brown.

*Length.*—7.5 inches; wing 3; tail 3.6; tarsus 0.75; culmen 0.7.

The female has the lower plumage from the breast downwards tinged with buff; tail dark brown with reddish shafts, all but the two centre feathers tipped with white; supercilium as in the male.

*Length*.—7·2; wing 2·85; tail 3·5; tarsus 0·75, culmen 0·6.

*Hab.*—Indo-Chinese countries, Tenasserim and Cochin-China, ranging down the Malayan Peninsula to the Sunda Islands. (Sharpe.) The British Museum possesses specimens from East and West Java, Sumatra, Labuan, Sarawak, Penang, Malacca, Tenasserim and Saigon (Cochin-China). Oates says it was recorded from Mergui by Blyth. Davison met with it in Tenasserim in the neighbourhood of the sea coast from Tavoy southwards. It extends also to Siam.

**236. *Rhipidura pectoralis*, *Jerd. Ill. Ind. Orn.* (text to pl. ii.); *Sharpe, Cat. B. Br. Mus.* iv. p. 335. *Leucocerca pectoralis* (*Jerd.*), *Blyth, J. A. S. B.* xii. p. 935; *Jerd. B. Ind.* i. p. 453, No. 293; *Butler, Str. F.* 1875, p. 466; *Hume, Nests and Eggs, Ind. B.* p. 203; *id. Str. F.* 1876, pp. 415-421. *Rhipidura fuscoventris*, *Sykes, P. Z. S.* 1832, p. 85. *Leucocerca leucogaster*, *Blyth, Ibis*, 1866, p. 371; *Fairbank, Str. F.*, 1876, p. 257.—The WHITE-SPOTTED FANTAIL.**

Whole head, sides of the face and ear coverts, also chin and collar across the lower throat, black; sides of the breast blackish, the lower part barred with half concealed ovate spots of white; supercilium from the base of the bill white; quills ashy brown on their edges, tail the same, but paler towards the tips of the feathers, which are buffy white; under surface, except the black collar, creamy buff, deeper on the under tail coverts; thighs brown, also the axillaries, which are ochraceous externally; bill and feet black; iris dark brown.

*Length*.—7 inches; wing 2·85; tail 3·85; tarsus 0·75; culmen 0·45.

*Hab.*—South India and Guzerat, also the Deccan (Fairbank), Egutpoora. Mr. Blanford notes it from the Godaveri Valley, and Jerdon from the Neilgherries. It has the usual habits of the genus, and utters a feeble warbling song. Captain Butler says it is very common at Mount Aboo. It breeds in March and April, during which months he took many nests. The nest is described as a very neat cup, made of fine dry grass stems, thickly coated exteriorly with cobwebs, many of which are fastened to neighbouring twigs to support the nest. The lower part often terminates in a fine tapering point. The nest is usually placed in the fork of one of the small branches of some low thick bush, about three feet from the ground (sometimes 6 or 7 feet), often overhanging a small stream or dry nullah. The eggs, usually three in number, are rather round ovals of a buffy white color, surrounded at the large end with a zone of lavender and olive brown spots and blotches. When the nest is being robbed the parents evince the greatest possible anxiety, and fly in great excitement about the nest, near enough to be caught by the hand.

**237. *Rhipidura albifrontata*, Sharpe, Cat. B. Br. Mus. iv. p. 338; Oates, B. Br. Burm., i. p. 268; Murray, Vert. Zool. Sind, p. 129. *Rhipidura albofrontata*, Frankl., P. Z. S. 1831, p. 116; Blyth, J. A. S. B. xii. p. 935. *Leucocerca albofrontata*, Jerd., Madras Journ., xi. p. 12; id. B. Ind. i. p. 452; Hume, Nests and Eggs, p. 201; Blyth and Wald, B. Burm. *Leucocerca aureola*, Hume, Str. F. i. p. 436; iii. p. 104; viii. p. 92. *Leucocerca burmannica*, Hume, Str. F. ix. p. 175 (footnote).—THE WHITE-BROWED FANTAIL.**

Head, neck, lores, and sides of the face slaty black; a broad frontal band, extending over the eyes to the nape, white; throat white, the feathers black at their bases; lower throat black, slightly edged with white; back and wing-coverts ashy brown, the latter, including the primary coverts, tipped with triangular spots of white; axillaries dark brown, edged with whitish; breast, abdomen, under tail and thigh coverts white, the feathers of the latter with black bases; tail dark brown, all, except the centre ones, broadly tipped white; bill and legs black; irides deep brown.

*Length*.—6 to 6·7 inches; bill at front 0·5; wing 3·3 to 3·15; tail 3·6; tarsus 0·75.

*Hab*.—India generally and Ceylon to Burmah, Pegu and N. W. Himalayas. Common in the Punjab, N. W. Provinces, Oudh, Central India, Rajputana, Kutch, Kattiawar and Jodhpore; also in Southern India, the Concan and Deccan, especially in gardens. Breeds in Sind from March to August. The nest is a very neat cup, made of fine fibres, &c., covered on the outside and inside with cobweb, and usually attached towards the end of a low branch. Eggs 2 to 3 in number, not unlike those of the preceding.

#### Gen. **Terpsiphone**.—*Gloger*.

Bill long, wide, depressed at base, narrowing at tip, hooked and notched; the culmen keeled; rictal bristles numerous, long and stout, not reaching beyond half the length of the bill; wings rather long and somewhat pointed; tail long, cuneate, with the central feathers greatly elongated in the males. Head crested.

**238. *Terpsiphone paradisi*, Linn. Syst. Nat. i. p. 224; Sharpe, Cat. Passerif. p. 347; Cat. Mus. Heine. Th. i. p. 58. *Muscicapa paradisi*, Cuv. Regne. Anim. 1817, i. p. 344; Sykes, P. Z. S. 1832, p. 84; Jerd. Ill. Ind. Orn. pl. 7. *Tchitreia paradisi*, Less. Traité, p. 386; Gray, Gen. B. i. p. 259; Hume, Ibis, 1869, p. 9; Jerd. B. Ind. p. 444, No. 288; Str. F. 1873, pp. 403, 474; 1875, p. 102; Murray Hdbk. Zool., &c. p. 138.—THE PARADISE FLY-CATCHER.**

*Adult Male*.—Head with a long occipital crest; sides of face, neck, and entire throat glossy steel green; above and below pure white, some of the feathers more or less black shafted; quills black, externally white; the edges of

the innermost quills white, with a longitudinal dark mark down the centre ; tail white, with black shafts and narrow blackish edgings to the feathers ; middle tail feathers elongated ; 12-13 inches in length.

*Adult Female*.—Crown of head and crest glossy greenish black ; lores, sides of face, sides of neck, and throat greyish ; rest of under surface of body white ; the flanks greyish and tinged with rufous ; back, wing coverts and inner secondaries bay ; tail light chestnut ; bill bluish ; legs and feet pale blue ; irides dark brown.

*Length of Male*.—Including elongated tail feathers 17 inches ; bill 0·85 ; wing 3·65 ; tail 5·5 ; middle-feathers 13. *Female, length* 7·5 ; wing 3·45 ; tail 4.

*Hab.*—India and Ceylon to Nepaul and Cashmere. Abundant on the Malabar Coast and in Southern India. Occurs in the Punjab, N. W. Provinces, Oudh, Bengal, Rajputana, Central India, Kutch, Kattiawar, Jodhpore and N. Guzerat. In Sind it is a winter visitant, arriving in September.

The Paradise Fly-Catcher is more or less a permanent resident of forest and wooded districts of India, and although it occurs in open districts as Sind and Rajputana, it is only a winter visitant in those parts. The highest elevation it has been found at is about 5,500 feet. Jerdon says it is very partial to bamboo jungle. In its habits it is restless and wandering, flitting continually from branch to branch and tree to tree, and feeds on flies and other insects, always capturing them on the wing, sometimes picking them off a leaf or bough. It breeds throughout the outer ranges of the Himalayas, in the warmer valleys, up to 5,500 feet, also in the Dhoon Terai, Oudh, and the Central Provinces. The season lasts from May to July. The nest is cup-shaped, and composed of moss, fibres, and grass, ornamented on the outside with white silky cocoons. Eggs 3 to 4 in number, longish oval in shape ; in color pinkish white, speckled with brownish red ; size 0·81 × 0·6.

In regard to the change of plumage of the Paradise Fly-Catcher, I entirely agree with Mr. Sharpe's views, viz., that the changes are not seasonal but due to age.

The nestlings in their first dress has a dull chestnut plumage, with the under surface of the body (abdomen) white, and this is the plumage of the females of the first year, except that the sides of the breast are greyish. In the second year the chestnut becomes duller, and this is the first stage of the males, which also have the steel green crown, crest and throat. In the following stage the long red tail is acquired, the quills and primary coverts are edged with white, and the inner secondaries only retain some of the rufous of the back. This is certainly the breeding plumage of the male in the second year. It is during the third year that the male changes to the full white plumage during autumn. Once the white plumage is assumed there is no



further change, either by moult or other means, and the birds are said to breed and live throughout the rest of their lives in their white plumage.

**239. *Terpsiphone affinis*, (A. Hay), Bl. *J. A. S. B.* xv. p. 292; Sharpe, *Cat. B. Br. Mus.* iv. p. 349; Oates, *B. Br. Burm.* i. p. 261. *Tchitrea affinis* (A. Hay), *Jerd. B. Ind.* i. p. 448, No. 289; Hume, *Str. F.* ii. p. 216. *Tchitrea paradisi* (Lin.), Hume, *Str. F.* iii. p. 102. *Muscipeta affinis*, Hume and Dav., *Str. F.* vi. p. 223, viii. p. 92; Scully, *Str. F.* viii. p. 274.—  
THE BURMESE PARADISE FLY-CATCHER.**

*Male*.—The whole head and neck black, glossed with blue; lower plumage, axillaries and under wing coverts pure white; back, scapulars, rump and upper wing coverts white, with indistinct blackish shaft stripes; lesser and median wing coverts white, the shafts conspicuously black; greater coverts and the tertiaries white, the shafts and a portion of the webs on either side black; primaries black, edged with white; secondaries black, very broadly edged with white on both webs, the white increasing in extent as the feathers approach the body; tail white; the shafts black, except on the central pair, where the shafts turn white towards the tip; all the tail feathers finely margined with black. The female has the forehead and crown black; the sides of the head, the chin, throat, breast and a collar round the neck ashy; the abdomen white, tinged with buff; the flanks and under tail coverts buff; the whole upper plumage, lesser wing coverts and tail chestnut; the median and greater coverts and all the quills brown edged with chestnut; the long tail feathers are wanting at all seasons. Young birds of both sexes are similar to the female. The young male in its second year loses the buff tinge on the abdomen, the ashy parts become darker, and the central tail feathers are replaced by long ones. In this plumage the male probably breeds for the first time; subsequently the chin and throat, as well as the sides of the head, turn black, and the white plumage of the adult is assumed either by a moult or, as is very probable, a change in the colour of the feathers only.

Iris hazel-brown; eyelids plumbeous, the edges tumid and rich blue; inside of mouth yellow; bill blue; the tip and anterior half of the margins black; legs plumbeous blue, claws dark horn colour.

Length of breeding males as much as 18 inches; of females and non-breeding males about 8 to 9; tail 4; wing 3·6; tarsus 0·68; bill from gape 1.

The tail in adult males is frequently 14 inches in length. (Oates.)

The Burmese Paradise Fly-Catcher is generally distributed over Burmah. In the plains of Pegu it occurs in large numbers in September and October, in which months it appears to be migrating locally. To the south it extends down the Malay Peninsula to the islands of Sumatra, Java, and Borneo, also Flores, and Dr. Tiraud mentions that it is found in Cochin-China. To the north it occurs in the Indo-Burmese countries, ranging into the Himalayas as

far as Nepaul. It affects the well-wooded parts of the country, and is more abundant in heavy forest and bamboo jungle than elsewhere. Like *T. paradisi* it is generally seen in pairs. At the period of local migration considerable numbers associate together for a short time. Oates says its nest has not yet been found.

Gen. **Philentoma**.—*Eyton*.

General characters of *Terpsiphone*.

Wing longer than the tail; second primary shorter than the secondaries, the third equal to the latter; wing rounded; the distance between the primaries and the secondaries not so great as the length of the culmen.

**240. *Philentoma velatum* (Tem.) Sharpe, Cat. B. Br. Mus. iv. p. 365; Blyth, Cat. B. Mus. A. S. B. p. 204; Jerd. B. Ind. i. p. 449; Walden, Ibis, 1872, p. 373; Sharpe, Ibis, 1877, p. 191; Hume and Dav. 1878, p. 224; Hume, Str. F. viii. p. 92; Oates, B. Br. Burm. i. p. 263.**—The MAROON-BREASTED FLY-CATCHER.

*Male*.—General colour bright greyish or indigo blue; forehead, lores, chin, cheeks and a narrow supercilium black; ring round the eye, ear coverts and upper half of the throat also black; lower half of throat and breast rich maroon; quills black; the outer webs broadly margined with indigo blue; tertiaries like the back and with black shafts; central tail feather indigo blue, the rest black on the inner web and blue on the outer; bill black; feet dark greenish black; iris crimson.

*Length*.—7·5 inches; wing 3·85; tail 3·3; tarsus 0·75; culmen 0·75.

The female is dull indigo blue throughout, except on the wings and tail, which are as in the male. The base of the forehead, lores, cheeks, throat and breast black.

*Length*.—7·9 inches; wing 3·8; tail 3·5; tarsus 0·7; culmen 0·7.

The following is a description by Mr. Hume of a young male: "Entire head and neck all round, chin, throat, breast and, in fact, all the lower parts, a dull chestnut, with only here and there on the lower parts patches of new dull cyaneous feathers appearing; median and the secondary and tertiary greater coverts tipped with chestnut."

*Hab*.—Southern half of the Tenasserim Provinces, Malayan Peninsula, Sumatra, and Borneo. (Sharpe.) Recorded by Mr. Sharpe as from Malacca, Sumatra, Sarawak, and Bintulu (N. W. Borneo).

Oates says the Maroon-breasted Fly-Catcher occurs in Tenasserim, and that Mr. Davison met with it at numerous places from Meetan, at the foot of the Mooleyit, to Malewoon at the extreme south. It is a constant resident. According to Davison it keeps entirely to the evergreen forests, never straying

even to their outskirts. It has always been met with in pairs. It has a harsh, grating, metallic-sounding note. Mr. Hume in vol. ix., p. 113, describes an allied species from the Malayan Peninsula as *P. intermedium*.

**241. *Philentoma pyrrhopterum* (Tem.) Sharpe, Cat. B. Br. Mus. iv. p. 366; Jerd. B. Ind. i. p. 449; Salvador, Utc. Bern. i. p. 138; Hume and Dar. ii. p. 223; Hume, Str. F. viii. p. 92; Oates, B. Br. Burm., i. p. 264. *Philentoma castaneum*, Eyles, Ann. Nat. Hist., Ser. i. xvi. p. 120; Sharpe, Ibis, 1877, p. 19.—THE CHESTNUT-WINGED FLY-CATCHER.**

*Male*.—Whole head and neck, the breast, back, and lesser wing coverts bluish grey or indigo blue, less deep on the forehead and over the eye; lower back and rump rufescent grey; upper tail coverts, tail, some of the outer webs of the scapulars, the tertiaries and most of the outer webs of the secondaries bright chestnut; remainder of the quills dark brown; the outer webs of the primaries margined with greyish blue, in some with a reddish tinge; primary coverts blue centred with blackish; greater wing coverts chestnut; lower plumage pale buff, becoming paler on the vent and under tail coverts; bill black; irides crimson.

*Length*.—6·8 to 7·5; wing 3·12 to 3·87; tail 2·75 to 3·3; tarsus 0·75.

The female has the forehead, crown, nape and sides of the head dull bluish or greenish grey; the back, scapulars, lesser and median wing coverts, rump and upper tail coverts dull earthy brown; chin, throat and breast fulvous white, more distinctly buffy at the base of the throat; rest of under surface sordid white, with more or less of a creamy tinge, washed with fulvescent; wings and tail as in the male; edge of the wing and coverts immediately under it blue; wing lining pale pinkish buff; legs dark greenish black; irides crimson.

*Length*.—6·75 to 7·9; wing 3·8 to 3·12; tail 2·62 to 3; tarsus 0·65 to 7; culmen 0·72 to 0·95.

*Hab*.—The Chestnut-winged Fly-Catcher occurs in the extreme south of Tenasserim, where it was observed by Davison in the evergreen forests about Bankasoon and Malewoon. It extends down the Malay Peninsula to Sumatra, Malacca, and Borneo, and Dr. Tiraud records it from Cochin-China. Davison says its habits are similar to those of *P. velatum*.

### Gen. *Culicicapa*.—Swinhoe.

Head subcrested; bill moderately broad, flattened, outline bowed in towards the tip; nareal bristles long and strong; rectal bristles slightly shorter; wing rather pointed; 1st quill shorter than the second; 4th and 5th very little longer than the third; tarsus short, feeble; tail nearly even.

**242. *Culicicapa ceylonensis*, Swainson, Zool. Ill. Ser. i. pl. xiii.; Sharpe, Cat. B. Br. Mus. iv. p. 369; Oates, B. Br. Burm., i. p. 274, Hume, Str. F. viii. p. 92; Scully, Str. F. viii. p. 275; Legge, B. Ceylon,**

p. 410. *Cryptolopha cinereocapilla*, (Hutton) *J. A. S. B.* xvii. p. 689; *Jerd. B. Ind.* i. p. 455, No. 295. *Myiolestes cinereocapilla* (Vieill.), *Hume, Nests and Eggs, Ind. B.* p. 205; *Ball, Str. F.* 1874, pp. 404, 406; *Wald, B. Burm.* p. 132. *Culicicapa cinereocapilla*, *Hume, Str. F.* iii. p. 104.—The GREY-HEADED FLY-CATCHER.

Head, neck and breast ashy, darker on the crown, where the feathers are dark centred; under surface bright yellow; the under wing coverts slightly paler; lores and edges of the eyelids whitish; back, rump, scapulars and upper tail coverts greenish yellow; wings and their coverts dark brown; the outer webs of all the feathers, except the first two primaries, edged with bright greenish yellow; the lesser wing coverts more broadly edged with the same on both webs; tail dark brown, the outer webs of all except the outer pair edged with greenish yellow; bill brown, paler at gape; mouth yellow; iris dark hazel; legs yellowish brown.

*Hab.*—The greater portion of India and Ceylon, extending through the Burmese countries down the Malay Peninsula to the islands of Java, the Philippines, and Celebes. (Sharpe.) According to Jerdon the Grey-headed Fly-Catcher is dispersed from the Himalayas to the Neilgherries, and spreads on the other side of the Bay through Assam, into Arrakan, Burmah, and Tenasserim. In South India, on the summit of the Neilgherries, it is very common. Towards the north and in Central India it is occasionally met with, and is not rare in Lower Bengal. Oates found it spread over the whole of Pegu as a winter visitor, both in the hills and plains. Davison states it is generally distributed throughout the whole of Tenasserim. Captain Bingham found it in the Thoungyeen Valley, and Captain Wardlaw-Ramsay in the hills in Karin. It prefers rather dense jungle in general, or shady groves and tangled thickets, is tolerably active and lively, making frequent sallies after small insects. It is often seen in small parties, occasionally singly or in pairs, and has a pleasant, but feeble, chirping song. It breeds in the Himalayas and in the Neilgherries at considerable elevations. Hutton obtained a nest at Mussoorie. It was placed against the trunk of a tree. It is sometimes placed against a rock. In shape the nest is like a watch-pocket, made of moss, and fixed to the moss of the tree by spider's web and lined with fine fibres. It breeds during April and May. The eggs, 4 in number, are dingy yellowish white, minutely spotted with pale greenish brown, or purplish grey, with a broad ring of the same near the large end; size 0.62 × 0.48.

#### Gen. *Cryptolopha*.—*Swains.*

Bill depressed, rather wide; culmen moderately keeled; rictal bristles well developed; nostrils concealed by bristles.

243. *Cryptolopha burkii*, *Sharpe, Cat. B. Br. Mus.* iv. p. 395. *Sylvia burkii*, *Burton, P. Z. S.*, 1835, p. 153. *Culicepeta burkii*, *Blyth, J. A. S. B.* xii. p. 968; *Jerd. B. Ind.* ii. p. 199, No. 569; *Blyth and Walden, B. Burm.* p. 107; *Str. F.* iii. p. 140.—The BLACK-BROWED WARBLER.

Above bright yellowish olive green, rather brighter on the rump and upper tail coverts; wing coverts like the back, the greater series tipped with yellow, forming an indistinct bar across the wing; the quills ashy brown with yellowish green margins, less distinct on the secondaries; tail feathers ashy brown, margined with yellowish green, the inner web of the outermost nearly all white, also the terminal half of the next; crown of the head yellowish green, on each side of which is a broad black band slightly shaded with grey below; lores, eyebrow and sides of face olive yellow; round the eye a circlet of bright yellow feathers; cheeks, sides of the neck, under wing coverts and *under surface of the body bright yellow*; bill dusky above, beneath amber; legs brownish yellow; irides dark brown.

*Length*.—4 to 4·3 inches; wing 2·2; tail 1·75 to 1·85; tarsus 0·7; culmen 0·5.

The female is much duller in colour.

*Hab*.—Northern India, ranging to Nepaul.

The Black-browed Warbler occurs in the N. W. Provinces of India, also in Oudh. The specimens in the National collection are from between Simla and Mussoorie, Nepaul, Behar, Darjeeling, and Bhootan. Jerdon, quoting Blyth, says "it is not uncommon in the neighbourhood of Calcutta during the cold season, and, like the rest of its tribe, retires to the sub-Himalayan region to breed." Of its nidification there is no record.

**244. *Cryptolopha cantatrix*, Sharpe, Cat. B. Br. Mus. iv. p. 397.** *Motacilla cantator*, Tick, *J. A. S. B.* ii. p. 576. *Culicepeta cantator*, *Jerd. B. Ind.* ii. p. 200, No. 570; *Seebohm, Ills*, 1878, p. 490. *Abornis cantator*, *Hume, Nests and Eggs, Ind. B.* p. 370; *id. Str. F.* viii. p. 102; *Ball, Str. F.* 1874, p. 415. *Abornis chrysea*, *Wald, in Blyth's B. Burm.* p. 106; *Hume, Str. F.* 1877, p. 56. *Cryptolopha cantator*, *Oates, B. Burm.* i. p. 270.—The LESSER BLACK-BROWED FLY-CATCHER.

Olive green above, yellower on the rump and upper tail coverts; chin, lores, throat, cheeks, supercilia, sides of neck, lower tail coverts and edge of the wing bright yellow; quills dusky brown, externally edged with bright yellow, greyish at the end of the primaries; greater wing coverts edged and tipped with yellow, forming a bar across the wing; tail feathers light brown, externally edged with olive yellow; the outer feathers edged with white towards the tip of the inner web; crown of head olive yellow, on each side of which a broad black band extending from the base of the bill to the sides of the nape; feathers round the eye bright yellow; a dusky spot in front of the eye; breast yellow; abdomen and flanks *greyish white, or silky white*; vent, thighs and under tail coverts bright yellow; bill brown; the lower mandible yellowish white; legs brown or fleshy yellow; irides hazel.

*Length*.—3·7 to 4 inches; wing 2·25; tail 1·7 to 1·8; culmen 0·45 to 0·55; tarsus 0·65.

*Hab.*—Bengal, Central India, Assam, Nepaul and British Burmah. In the latter it has been obtained in the Karin Hills, near Tounghoo, by Captain Wardlaw-Ramsay. Breeds in the Himalayas and Sikkim during May, and probably June also. A nest, containing a single egg, was sent to Mr. Hume in May from Sikkim. The egg was pure glossy white, oval in shape, and in size 0.6 × 0.49.

**245. *Cryptolopha affinis* (Hodgs.) Sharpe, Cat. B. Br. Mus. iv. p. 398.** *Culicepeta tephrocephala*, *Anders., P. Z. S.* 1871, p. 213; *Bl. and Wald., B. Burm.* p. 107; *Anders. Yunnan Exped.* p. 626, pl. 50; *Hume, Str. F.* 1874, p. 479; *Hume and Dav., Str. F.* 1878, p. 358; *Seebohm. Ibis*, 1878, p. 490; *Hume, Str. F.* viii. p. 102; *Dav. et. Oust. Ois Chine*, p. 273; *Oates, B. Burm.* i. p. 271. *Abrornis affinis* (Hodgs.), *Jerd. B. Ind.* ii. p. 204, No. 576.—The ALLIED or ANDERSON'S WARBLER.

Forehead, lores, cheeks, feathers above the eyes, the ear coverts, sides of the neck, back, rump and upper tail coverts yellowish green; a broad supercilium and a streak on each side of the crown slate coloured; *crown of head and nape ashy grey*; wing coverts broadly margined with yellowish green; feathers on the edges of the eyelids and the whole lower plumage, also the under wing and tail coverts, bright yellow; primaries and secondaries sepia-brown, the outer webs margined with yellowish green; wing coverts concolorous with the back; tertiaries the same; tail feathers sepia brown, the four central pairs washed with the same yellowish green as the back, the two outer pairs white for the whole extent of the inner web; upper mandible brown, lower yellow; mouth yellow; feet and claws yellowish horn; legs yellow.

*Length.*—3.8 to 4.25; wing 2.1 to 2.2; tail 1.8; tarsus 0.7 to 0.75; bill from gape 0.65.

*Hab.*—Eastern Himalayas, extending to Nepaul, the Burmese countries and Western China. (Sharpe.)

This Warbler, according to Oates, is very abundant throughout Pegu in the winter months. It has been obtained in the Karin Hills at 3,500 feet elevation. In Tenasserim, Davison states that it is sparingly distributed throughout the northern and central portions of the division. Captain Bingham found it in the Thoungyeen Valley. Dr. Anderson described it under the name of *C. tephrocephalus* from the hills to the east of Bhamo. He also found it in Yunnan and in Western China. It leaves Burmah during March and April, but where it goes to is not known; it is, however, suggested that its breeding haunts are in some part of China.

**246. *Cryptolopha xanthoschista* (Hodgs.) Sharpe, Cat. B. Br. Mus. iv. p. 398;** *Oates, B. Br. Burm.* i. p. 272. *Phyllopneste xanthoschistos*, *Hodgs. in Gray's Zool. Mis.* p. 82. *Abrornis xanthoschistos*, *Jerd. B. Ind.* ii. p. 202, No. 572; *Hume, Nests and Eggs*, p. 370; *Hume and Henderson*,

*Lah to Yarkand*, p. 220 pl. xx. fig. 2; *Hume, Str. F.* i. p. 493; *Brooks, Str. F.* iii. p. 245; viii. p. 483; *Hume, Str. F.* viii. p. 102; *Scully, Str. F.* vii. p. 309. *Abrornis albosuperciliaris* (Bl.) *apud. Jerd. B. India*, ii. p. 202, No. 573; *Hume and Henders. Lah to Yark.* pl. xx. fig. 1; *Hume, Str. F.* i. p. 493; *Brooks, Str. F.* iii. p. 245; *Hume, Str. F.* vii. p. 245.—HODGSON'S GREY-HEADED FLY-CATCHER.

Head, nape and back dark ashy grey in some, the latter washed with yellowish; wing coverts, rump and upper tail coverts olive yellow; quills dusky brown, externally edged with olive yellow, brighter on the primaries; tail dark ashy brown, edged narrowly with white on the inner web, increasing in extent towards the two outermost, which are almost entirely white, except at the base and towards the tip of the outer web; outer web of rest of tail feathers edged with olive yellow; a white supercilium from the nostril to the nape; lores dark grey; ear coverts greyish white; feathers below the eye the same; cheeks and entire under surface of body bright yellow; the feathers on the flanks with a subterminal shade of white; under wing coverts and edge of the wing yellow; axillaries whitish, washed with yellow; bill, the upper mandible, brownish black; the lower horny yellow; irides blackish brown.

*Length*.—3·8 to 4·2 inches; wing 2·1 to 2·2; tail 1·7 to 1·8; tarsus 0·75; culmen 0·4; from gape 0·5.

*Hab.*—The Himalayas extending to Assam, Arrakan, British Burmah and Nepaul. It occurs in the Punjab, N. W. Provinces, Bengal, Central India, the Khasia Hills, Burmah and Nepaul, also Bhootan. Mr. Sharpe, under "Obs." (*Cat. B. Br. Mus.* vol. iv. p. 399), says: "The specimens of this bird from the North Western Himalayas are generally rather more ashy brown on the head and are rather larger; in this state they are *Cryptolopha albosuperciliaris* of Indian authors. These birds can, however, be matched by some Nepaulese examples. In the Eastern Himalayas, the specimens have the head rather clearer blue grey, and are smaller in dimensions.—(*Cryptolopha xanthoschista*, *Hodgs. and C. Jerdoni, Brooks*)." Hodgson's Grey-headed Warbler breeds in Nepaul and Sikkim up to 6,000 or 7,000 feet during April and May. It nests on the ground under thick bushes, under roots of trees, or in holes in banks. Mr. Gammie found a nest in Sikkim: it was a domed structure made of moss. The eggs are pure white, four in number, and in size 0·56 × 0·47.

**247. *Cryptolopha schisticeps*, (Hodgs.), Sharpe, *Cat. B. Br. Mus.* iv. p. 400. *Abrornis schisticeps*, *Hodgs. Icon. ined. Passeres*, pl. 57, fig. 6; pl. 28, fig. 2; pl. 64, fig. 1; *Seebohm, Ibis*, 1878, p. 490; *Jerd. B. Ind.* ii. p. 201, No. 571. *Abrornis melanotis*, *Jerd. and Blyth, P. Z. S.* 1861, p. 200.—THE BLACK-EARED WARBLER.**

Head and hind neck dark slaty grey; a narrow frontal line, lores, feathers in front of and below the eye, ear coverts and sides of the neck slaty grey; forehead and a very broad eye-brow brilliant yellow; the cheeks, throat,

foreneck and upper breast dull yellow; sides of the breast dull greenish; lower breast and abdomen white; thighs and under tail coverts dull olive yellow, also the wing coverts; quills dusky blackish; the primaries narrowly edged with yellow, and the secondaries broadly washed with the same; tail feathers dusky brown, with olive yellow on the outer web, and whitish on the inner web; the inner web of the outermost entirely white; under wing coverts and edge of wing bright yellow; axillaries very pale yellow; bill and legs horny.

*Length*.—3·5 inches; wing 1·75; tail 1·55; tarsus 0·6; culmen 0·35.

*Hab.*—The Himalayas, extending to Sikkim and Nepal. Dr. Jerdon records it from Nepal, Mussoorie, and Sikkim. Hutton found the nest at Mussoorie in March and May, and says that it breeds at about 5,000 feet. It makes a round ball-like nest, with a lateral entrance. The nest is composed of grass, moss, wool, cotton, feathers, thread, and hair. The eggs, three in number, are oval and glossy white, and in size 0·82 × 0·48.

**248. *Cryptolopha superciliaris*.** *Tick*, *J. A. S. B.* xxviii. p. 414; *Sharpe*, *Cat. B. Br. Mus.* iv. p. 402; *Oates*, *B. Br. Burm.* i, p. 273. *Abrornis superciliaris* (*Tick*), *Jerd. B. Ind.* ii. p. 203; *Hume*, *Str. F.* iii. p. 140; *Hume and Dav.*, *Str. F.* vi. p. 359; *Anders.*, *Yunnan Exp.* p. 626; *Hume*, *Str. F.* viii. p. 102; *Bingham*, *Str. F.* ix. p. 188. *Abrornis albigularis*, *Jerd. and Blyth*, *P. Z. S.* 1861, p. 200 (*nec. Moore*). *Abrornis flaviventris*, *Jerd. B. Ind.* ii. p. 203, No. 574.—The YELLOW-BELLIED WARBLER.

Forehead and crown light ashy brown, slightly washed with olive; rest of upper plumage dull olive brown; supercilium from the bill over the eye to the nape white; lores and behind the eye brown; cheeks and ear coverts greyish white; chin, throat, foreneck and upper breast white, rest of lower surface bright yellow, paler on the abdomen; under wing coverts whitish, washed with yellow; quills and wing coverts dark brown, edged with olive green; tail brown, edged on the outer web with olive, and on the inner with pale rufous for the greater part of the web; bill more or less of a dark olive brown or horn colour, plumbeous at the base of the lower mandible; inside of mouth yellow; eyelids grey; iris dark brown; legs yellow.

*Length*.—4·2 to 4·4 inches; wing 2·05 to 2·1; tail 1·75 to 1·8; tarsus 0·75; culmen 0·45.

*Hab.*—The Himalayas, British Burmah and Java; also Sikkim and Nepal.

Jerdon found this species at Darjeeling. It also occurs in Upper Bengal. Oates obtained it in various parts of Pegu, both on the hills and in the plains. Captain Wardlaw-Ramsay procured it in the Tounghoo Hills, and also in Karin, while in Tenasserim Davison states it is sparingly distributed throughout the country. Captain Bingham found the nest in March near the Zammee River in Tenasserim. It consisted of a mass of fibres placed in a bamboo which had been cut down, and then left leaning against a bush. The eggs, three in number, are white, speckled with pinkish claret colour.



**249. *Cryptolopha poliogenys*, Blyth, *J. A. S. B.* xvi. p. 441; Sharpe, *Cat. B. Br. Mus.* vol. iv. p. 403. *Abornis poliogenys*, Blyth, *Cat. B. Mus. A. S. B.* p. 183; *Jerd. B. Ind.* ii. p. 203, No. 575; Seebohm, *Ibis*, 1878, p. 490.—The GREY-CHEEKED WARBLER.**

Above yellowish green, brighter yellow on the rump; tail dark brown, edged with olive green; the three outermost feathers greenish dusky on the terminal half of the outer web; the basal half and whole of the inner web white; quills and wing coverts dark brown, narrowly edged with yellowish green; the greater coverts tipped with bright yellow, and forming a bar across the wing; head slaty grey; the sides of the crown blackish, forming a broad stripe reaching to the nape; sides of the face ashy grey; the ear coverts slightly streaked with black; orbital ring of feathers white; lores and fore part of cheeks ashy white, the feathers with dusky bases; chin white; rest of under surface, including under wing coverts, bright golden yellow; sides of the breast washed with olive green; bill blackish, horny above, yellowish beneath; feet yellowish horny.

*Length*.—3·8 to 4·25 inches; wing 1·9 to 2; tail 1·75; tarsus 0·7; culmen 0·4.

*Hab.*—The Himalayas, extending to Nepal and Sikkim.

Dr. Jerdon found this species near Darjeeling and in the Khasia Hills, where, he says, it probably breeds. There is no record of its habits, nor of its nidification. It is also found in Upper Bengal.

**250. *Cryptolopha castaneoceps*, (Bp.) Sharpe, *Cat. Birds Br. Mus.* iv. p. 404. *Abornis castaneoceps*, *Hodgs. Icon. ined. Passeres*, pl. 57, fig. 7; *Jerd. B. Ind.* ii. p. 205, No. 578; Seebohm, *Ibis*, 1878, p. 490. *Culicepeta castaneoceps*, Blyth, *J. A. S. B.* xvi. p. 442. *Reguloides castaneoceps*, Bp. *Consp.* i. p. 202; *Jerd. and Blyth, P. Z. S.*, 1861, p. 200.—The CHESTNUT-HEADED WARBLER.**

• Crown of head chestnut, with a black stripe running down the sides of the nape from above and behind each eye; lores white, tipped with black; orbital ring of feathers white; sides of the face grey, as also the sides of the neck; a white stripe below the black streak on the sides of the nape; cheeks, throat and upper breast light greyish; the middle of the abdomen whitish; rest of under surface, including the under wing coverts, axillaries and edge of the wing bright yellow; back olive yellow; rump and upper tail coverts bright yellow, the least wing coverts the same but rather brighter; median and greater coverts dark brown, edged and tipped with bright yellow, forming a double bar across the wing; quills dark brown, externally edged with olive yellow; tail light brown, edged with olive yellow, the two outermost feathers white, brown only along the tip of the outer web; bill dark horn brown, the lower mandible paler; legs pale.

*Length*.—3·5 to 4 inches; wing 1·85 to 1·95; tail 1·5 to 1·6; tarsus 0·65; culmen 0·4.

*Hab*.—The Himalayas, Upper Bengal, Nepaul and Sikkim.

Very little is known of the habits of this species. It is said to breed in Nepaul.

**251. *Cryptolopha albigularis*, (Hodgs. ?) Sharpe, Cat. B. Br. Mus. iv. p. 405. *Abrornis albogularis*, Hodgs. Icon. ined. *Passeres*, App. pl. 46; *Jerd. B. Ind.* ii. p. 204, No. 577; *Seebohm, Ibis*, 1878, p. 490.—The WHITE-THROATED WARBLER.**

Forehead, eyebrow, lores, sides of the face, hind-crown and nape rufous fawn colour; crown dusky, the feathers tipped with black, and forming, as it were, a double row or band down the crown; throat whitish; back yellowish green; the rump whitish, washed with yellow; upper tail coverts olive yellow; wing coverts and quills dark brown, edged with yellowish green; tail light brown, margined with olive yellow; along the outer webs, breast and sides of the body pale olive yellow; the middle of the abdomen white; thighs and under tail and under wing coverts, also the edge of the wing, olive yellow; axillaries white, washed with yellow; rectal bristles as long as the bill; bill and legs pale fleshy.

*Length*.—3·3 to 3·5 inches; wing 1·75; tail 1·5; tarsus 0·6; culmen 0·35.

*Hab*.—Nepaul and Darjeeling.

Nothing is on record of its habits and nidification.

**252. *Cryptolopha hodgsoni*, Moore, App. to Horsf. and Moore, Cat. B. Mus. E. I. Co. i. p. 412; Sharpe, Cat. B. Br. Mus. iv. p. 406. *Tickellia hodgsoni*, *Jerd. and Blyth, P. Z. S.*, 1861, p. 199; *Jerd. B. Ind.* ii. p. 206; *Seebohm, Ibis*, 1878, p. 490.—The BROAD-BILLED WARBLER.**

Above olive green, yellowish on the rump and upper tail coverts; forehead and crown deep ferruginous; lores white with blackish tips; sides of the head, eyebrow, and sides of the neck dull grey; throat lighter ashy grey, nearly white on the chin; rest of under surface bright yellow; under wing coverts and axillaries light yellow; tail brown, margined with olive, the two outermost feathers white along the inner web and brown on the outer; quills and wing coverts dull brown, edged with olive green; bill horny yellowish at base below; legs yellowish.

*Length*.—3·5 to 3·75 inches; wing 1·75 to 1·95; tail 1·5; tarsus 0·65; culmen 0·3.

*Hab*.—The Eastern Himalayas.

Jerdon says he procured one specimen only of this pretty Warbler at Darjeeling. He thinks Hodgson's specimens were probably from Sikkim, and not Nepaul.

**253. *Cryptolopha flavigularis*.** *Godw.-Austen, J. A. S. B. xlvii. p. 19, 1878; Sharpe, Cat. B. Br. Mus. iv. p. 474, App.*—The YELLOW-THROATED WARBLER.

Above ashy grey, purer grey on rump, rather darker on the head; wings pale amber brown; tail ash brown; the two outer feathers white on the inner web, the next with a narrow edging of white; lores white; ear coverts white and grey; chin pure yellow, fading on the throat; breast, nape, flanks and thighs greyish white; whitish on the breast; a very faint yellow tinge on the abdomen; under tail coverts white; a small patch of white on the inner shoulder of the wing; bill dark brown, buff below.

*Length*.—3·6 to 3·8 inches; wing 1·84; tail 1·8; tarsus 0·67; bill from front 0·3. (Godwin-Austen and Sharpe.)

*Hab.*—Sadiya near Brahmakhund, and hills of Eastern Bengal.

*Gen. Stoparola.*—*Blyth*.

Bill short, depressed; the culmen not equal to twice its breadth at the gape; tip-hooked; rictal bristles numerous; wing rather long; 3rd, 4th and 5th quills subequal; tail moderate; tarsus short.

**254. *Stoparola albicaudata*.** *Jerd. Madras, Journ. xi. p. 16; id. Illust. Ind. Orn. pl. 14; Blyth, J. A. S. B. xvi. p. 125; id. Cat. B. Mus. A. S. B. p. 175; Hume, Nests and Eggs, Indian B. p. 210; Fairbank, Str. F. 1877, p. 402. Eumyias albicaudata, (Horsf. & Moore) Jerd. B. Ind., i p. 464, No. 302; Hume, Str. F. 1876, p. 396.*—The NEILGHERRY BLUE FLY-CATCHER.

Above deep indigo blue, with a slight lazuline blue eyebrow; forehead and head also inclining to lazuline blue; wing coverts and quills dusky black, externally edged with lazuline blue; primary coverts dark brown, edged externally with blue; tail the same, the base of all the feathers, except the two centre ones, white; central tail feathers white-shafted; under surface of body indigo blue, rather greyish on the lower flanks and abdomen; the lower abdomen and vent slightly whitish; under tails coverts dusky, with whitish edges to the feathers; bill and legs black; irides dark brown.

*Length*.—6 to 6·5 inches; wing 3·05 to 3·2; tail 2·3 to 2·10; tarsus 0·75; culmen 0·45.

*Hab.*—South India.

This species is confined to Southern India, nearly throughout the high mountain ranges of which it is found. The Neilgherries and Travancore, also Madras, are noted as localities.

In Travancore, Mr. Bourdillon says it is common, though not abundant, up to 2,000 feet elevation, and is frequently observed in the forest wherever there are heaps of unburnt brushwood lying about. It is a winter visitor there from December to March. In the Neilgherries Jerdon says it is very common,

generally in parties of five or six, capturing insects in the air. It makes its nest in a slight hole in a bank. The eggs are three in number, longish ovals, in colour varying from creamy white to warm *café au lait* with brown, red or very obscure markings; size 0·81 × 0·59.

**255. *Stoparola melanops*, Vigors., P. Z. S. 1831, p. 171; Gould., Cent. Him. B. pl. 6; Blyth, J. A. S. B. xvi. p. 174; Hume, Nests and Eggs, Ind. B. p. 208; Adams, Str. F. 1874, p. 338; Ball t. c. p. 405; Butler, Str. F. 1877, p. 230; Hume and Dav., op. cit. 1878, p. 227; Sharpe, Cat. B. Br. Mus. iv. p. 438; Oates, B. B. Burm. i. p. 285. *Eumyias melanops* (Vig.), Ferd. B. Ind. i. p. 463, No. 301; Armstrong, Str. F. iv. p. 323; Anderson Yunnan Exped. p. 622. *Glaucomyias melanops*, Scully, Str. F. viii. p. 277.—The VERDITER FLY-CATCHER.**

Lores, feathers in front of the eye and at the base of the upper mandible black, rest of the plumage verditer-blue, brightest on the forehead, chin, throat, breast and upper tail coverts; under tail coverts broadly tipped with white; tail blue, the shafts black and the inner webs edged with brown; primaries and secondaries blue on the outer and black on the inner webs; tertiaries and upper wing coverts blue; bill and legs black; irides deep brown.

*Length*.—6 inches; wing 3·2 to 3·4; tail 2·75 to 2·8; tarsus 0·65; culmen 0·45.

The female is like the male, but has the blue of the head and body much duller, and the chin and throat are mottled with whitish.

*Hab.*—Indian Peninsula, Burmese countries, and Sikkim, ranging into Southern China. (Sharpe.) It visits the plains of India and Burmah during winter, and is generally spread throughout the better-wooded parts of the country. It also occurs in Arrakan. Oates found it in Pegu, Blanford got it at Bassein; Captain Wardlaw-Ramsay on the Karin Hills, Mr. Davison in Tenasserim, and Captain Bingham in the Thoungyeen Valley. It breeds in the Himalayas, making a neat cup-shaped nest, composed of moss, lined with fibres and hair, which is generally placed under a wooden bridge, or under the eaves of roofs. The eggs, four in number, are oval, in colour dull white, and with rufous spots.

#### Gen. *Siphia*.—Hodgs.

Bill moderately wide; length of culmen equal to twice the breadth of the base at gape, slightly hooked at tip and notched; nostrils covered by bristles and frontal plumes; wings pointed and long, but not reaching to the tip of the tail; 4th quill longest; hind claw moderate and curved, not as long as the hind toe; toes scutate at base of claws; tarsus as long as hind toe and claw.

**256. *Siphia pallipes*, Sharpe, Cat. B. Br. Mus. iv. p. 444; Muscicapa pallipes, Ferd., Madras Journ. xi. p. 15. *Cyornis pallipes* (Blyth), Ferd. B. Ind. i. p. 469, No. 309; Fairbank, Str. F. 1876, p. 357; Hume, t. c. p. 397.—The WHITE-BELLIED BLUE FLY-CATCHER.**

Above dull blue, the forehead and eyebrow inclining to cobalt; lores and feathers in front of the eye black; sides of face, throat and breast deep blue; wing coverts blue, the least series brighter and more cobalt; quills blackish, externally dull blue; tail blue, the feathers dusky on their inner webs; under surface of body pure white, shaded with ashy on the upper breast and bluish grey on the flanks; thighs dull blue; *under wing coverts and axillaries white*; edge of wing blue; bill black; legs and feet flesh colour; iris brown.

*Length*.—5·7 to 6·5 inches; wing 2·9 to 3; tail 2·5; culmen 0·6; tarsus 0·75.

*Hab*.—Southern India and the Concan. It is recorded from Coorg in Mysore, Sirci above Honore and the Coonoor Pass of the Neilgherries, and Dr. Fairbank got it in deep ravines near (Parwar?) Carwar on the Goa frontier. Jerdon says it is probably an inhabitant of the upland forests of the Western Ghats; he observed it on the Neilgherries darting on insects from its perch on a low branch. Mr. Bourdillon also records it from the Travancore Hills.

**257. *Siphia unicolor*, (Blyth) Sharpe, *Cat. B. Br. Mus.* iv. p. 444. *Cyornis unicolor*, *Blyth. J. A. S. B.* xii. pp. 941, 1007; *id.*, *Cat. B. Mus.*, *A. S. B.* p. 173; *Jerd. B. Ind.* i. p. 465, No. 303; *Hume, Str. F.* 1875, p. 401; 1876, p. 398; 1877, p. 489; *Sharpe, Ibis*, 1878, p. 418; *Godw.-Austen, J. A. S. B.* 1878, p. 15.—The PALE BLUE FLY-CATCHER.**

Above light blue, inclining to cobalt on the rump; forehead, over the eye, as also the feathers round the eye, cobalt; sides of the face deep blue, paler under the eye and fore part of the cheeks; lores blue black; wing coverts bright blue; the greater series and quills blackish, edged externally with bright blue; tail deep blue, all, except the two centre feathers, blackish on the inner webs; throat and breast light greyish blue, centre of abdomen and under tail coverts whitish; rest of the under surface of body very pale blue; *under wing coverts fulvous or yellowish fawn*; edge of the wing blue; bill and legs black.

*Length*.—6 to 6·75 inches; wing 3·2; tail 2·8; tarsus 0·7; culmen 0·5.

The female is dark ashy brown above, all the parts which are blue in the male are rufous brown; lores fulvescent; ear coverts and sides of face and neck dark ashy brown, with hair-like shaft streaks; chin and throat pale rufous; fore neck and breast ashy brown; abdomen dull white; flanks and under tail coverts fulvous; under wing coverts buffy brown.

*Length*.—6·2 inches; wing 3·1; tail 2·6; tarsus 0·65.

The young are mottled all over with ochraceous spots.

*Hab*.—The Eastern Himalayas, extending to the Malay Peninsula, Java and Borneo. (Sharpe.) Recorded from Darjeeling and Sikkim.

**258. *Siphia rubeculoides*, (Vigors), Sharpe, Cat. B. Br. Mus. iv. p. 445; Oates, B. Br. Burm. i. p. 287. *Phœnicura rubeculoides*, Vig. P. Z. S. 1831, p. 35; Gould., Cent. Him. B. pl. 25, fig. 1. *Cyornis rubeculoides*, Blyth, J. A. S. B. xii. p. 941; Ferd. B. Ind. i. p. 466, No. 304; Blyth and Wald., B. Burm. p. 103; Hume, Nests and Eggs, Ind. B. p. 211; id. Str. F. iii. p. 104; Hume and Dav., Str. F. vi. p. 227; Anders. Yunnan Exp. p. 619; Hume, Str. F. vii. p. 92.—THE BLUE-THOATED REDBREAST.**

*Male*.—Forehead and streak over the eye glistening blue; lores and feathers at the base of the bill black; ear coverts dusky blue; cheeks, sides of the neck, throat and chin dusky blue black; whole upper plumage dark blue; tail black-shafted, the feathers brown on their inner webs; wing dark brown, the feathers narrowly edged with dark blue; lesser wing coverts bright blue; the larger coverts brown, edged with dark blue, breast and abdomen bright ferruginous, running up to a point on the throat; lower abdomen and under tail coverts white; under wing coverts pale ferruginous; bill black; iris brown.

The female has the upper plumage olive brown, tinged with ferruginous, strongly so on the forehead, feathers, round the eye and upper tail coverts; lores albescent; chin, throat and breast ruddy ferruginous; abdomen and under tail coverts white.

*Length*.—5·7 inches; tail 2·4; wing 2·75; tarsus 0·75; bill from gape 0·7.

*Hab*.—India generally, extending to the N. W. Himalayas, Nepal, Sikkim, and the Burmese countries.

The Blue-throated Redbreast visits the plains of India during the winter months. It is rare in the south of India, and occurs both on the Eastern and Western Coasts. In the Punjab, N. W. Provinces, Oudh and Bengal it is tolerably common. At Darjeeling it is found at from 4,000 to 6,000 feet elevation. In British Burmah it is also a winter visitor. It is recorded from Arrakan, and is found both in the hills and plains of the Pegu District from October to April. Mr. Davison says it is common throughout Tenasserim and is a permanent resident. It breeds in holes in banks. Captain Hutton found two nests at Mussoorie: they were made of moss and hair-like fibres. The eggs, four in number, were dull pale olive, or olive green, faintly clouded with clay colour and marked with dull rufous; size 0·72 × 0·52.

**259. *Siphia tickellæ*, (Blyth). Sharpe, Cat. B. Br. Mus. iv. p. 448; Oates, B. Burm. i. p. 289. *Cyornis tickellæ*, Blyth, J. A. S. B. xii. p. 491; Ferd. B. Ind. i. p. 367, No. 306; Hume, Nests and Eggs, p. 212; id., Str. F. i. p. 436; Ball, Str. F. ii. p. 405; Hume, Str. F. iii. p. 468; Wald. in Bl. B. Burm. p. 103. *Cyornis banyumas* (nec. Horsf.), Ferd. B. Ind. i. p. 466, No. 305.—TICKELL'S BLUE REDBREAST.**

Above light blue; forehead cobalt; a narrow frontal line and space in front of the eye blue black; cheeks, ear coverts and a narrow line across the chin at the base of the bill dark blue; the ear coverts washed with lighter blue; wing

coverts cobalt blue; quills and tail light blue externally and dusky brown on the inner webs; two centre feathers and inner secondaries nearly entirely blue; entire throat and breast orange rufous; under wing coverts and axillaries, the lower abdomen and under tail coverts, white; sides of the breast, edge of the wing and thighs blue.

*Length*.—5·3 to 5·8 inches; wing 2·8 to 2·9; tail 2·3 to 2·5; tarsus 0·7; bill from gape 0·75.

The female is similar to the male, but paler, and has no black on the chin and face; the frontal line and lores are dull white; the ear coverts greyish blue, with whitish shaft streaks.

*Hab*.—India and Ceylon, ranging to British Burmah.

Tickell's Redbreast is recorded from the N. W. Provinces and Oudh, also Bengal, Kattiawar, Rajputana, Central India, the Central Provinces, the Carnatic, Malabar Coast, Guzerat, Concan, Deccan,\* South India and British Burmah. It breeds during May and June throughout Central India, the Neilgherries, and the Western Ghauts, nesting in the hole of a tree or wall. The nest is made of moss and dry leaves. The eggs are greyish white (dull brownish pink ? Hume), speckled with dull reddish brown; size 0·61 × 0·48. It affects open forests, groves, and gardens.

**260. *Siphia magnirostris*, (Blyth), Sharpe, *Cat. B. Br. Mus.* iv. p. 453; *Oates, B. Br. Burmah*, i. p. 290. *Cyornis magnirostris*, Blyth, *J. A. S. B.* xviii. p. 814; *Ferd. B. Ind.* i. p. 469, No. 308; *Godw.-Austen*, *J. A. S. B.* xxxix. p. 100; *Hume, Str. F.* viii. p. 92; 1876, p. 223; 1877, pp. 339, 489; *id.*, *Hume and Dav.*, *Str. F.* 1878, p. 229.—The LARGE-BILLED REDBREAST.**

Whole upper plumage, cheeks, ear coverts, sides of the neck and wing coverts dull deep blue; brilliant on the forehead and over the lores and eyes; base of lower mandible and lores black; chin, throat and breast chestnut; sides of the breast blue; sides of the abdomen and flanks fulvous; centre of abdomen and under tail coverts white; under wing coverts and axillaries buff; tail, quills and greater wing coverts dark brown, externally edged with blue; bill dusky; legs pale whitish; irides dark brown.

*Length*.—6 inches; wing 3·1 to 3·2; tail 2·5; tarsus 0·7; culmen 0·55.

The female is ashy above, tinged with fulvous; lores, a ring of feathers round the eye, chin, throat and under tail coverts white; rest of the under surface pale buff; quills dusky brown, edged with fulvous; tail fulvous.

*Length*.—5·5 inches; wing 2·75; tail 2·3; tarsus; 0·7.

*Hab*.—Eastern Bengal, on the Hills; Cachar and throughout the Eastern Himalayas, ranging to South Tenasserim, also Darjeeling and in Sikkim.

Oates says it is rare in South Tenasserim, and that it will be found generally distributed throughout British Burmah.

**261. *Siphia nigrorufa*, (Jerd.) Sharpe, Cat. B. Br. Mus. iv. p. 455. *Saxicola nigrorufa*, Jerd., Madras Journ. x. p. 266. *Ochromela nigrorufa*, Blyth, J. A. S. B. xvi. p. 129; Jerd. B. Ind. i. p. 492, No. 300; Hume, Nests and Eggs, B. Ind. p. 207; id, Str. F. 1876, p. 396; Fairbank, Str. F. 1877, p. 401.—The BLACK and ORANGE FLY-CATCHER.**

Head, nape and back of neck dusky black; cheeks and upper surface of body orange-rufous; wings black, the quills browner, white edged along the inner web; tail orange, thighs dusky, under wing coverts pale orange; rest of under surface of body orange-rufous, rather buffy on the middle of the abdomen; bill black; legs dirty reddish; irides hazel brown.

*Length*.—4·7 to 4·9 inches; wing 2·4; tail 1·9; tarsus 0·8.

The female is dusky on the head, also on the wings; wing coverts washed with orange.

*Hab.*—Southern India and Ceylon.

Jerdon says it has only been found on the summit of the Neilgherries and in Ceylon.

It frequents the dense forests, preferring shady, damp and swampy places. Breeds on the Neilgherries. Eggs, 2 to 3, pale salmon in colour, 0·7 × 0·53; nest a large ball of dry sedges placed in a bush.

**262. *Siphia strophciata*, Hodgs., Ind. Rev. i. p. 651; Jerd. B. Ind. i. p. 479, No. 319; Godw.-Austen, J. A. S. B. 1870, p. 101; Sharpe, Cat. B. Br. Mus. iv p. 455; Oates, B. Br. Burm. i p. 290; Hume, Str. F. viii. p. 92; Scully, Str. F. viii. p. 278.—The ORANGE-GORGETED FLY-CATCHER.**

Above olive brown, the back and rump slightly tinged with fulvous, the feathers of the latter long and silky and with a white subterminal bar; upper tail coverts black; a narrow frontal line at base of upper mandible; lores, cheeks, chin, feathers round the eye and throat black; forehead and a line extending backwards over the fore part of the eye white; sides of face and ear coverts deep slaty; a bright chestnut patch on the throat; breast and sides of the neck slaty; abdomen, vent and under tail coverts white; flanks olive brown; thighs slaty grey; lesser wing coverts slaty grey, the other coverts and all the quills brown, edged externally with fulvous; tail feathers blackish, the two centre feathers entirely blackish, the next feather on each side with a white bar on the outer web, all the others white for the basal half and blackish terminally; under wing coverts and axillaries light buff; bill black; legs brown; iris dark brown.

*Length*.—5 to 5·3 inches; wing 2·9 to 3; tail 2·15 to 2·3; tarsus 0·8; culmen 0·45.

The female is similar, but the orange patch on the throat is smaller and much paler chestnut, and the white frontal band is nearly obsolete. The young



bird is brown above and below, each feather streaked with fulvous, the throat patch of chestnut is absent.

*Hab.*—The Himalayas, from Nepaul to Sikkim, also Assam and the Naga Hills, ranging into British Burmah.

The Orange-throated Fly-Catcher is recorded from Mussoorie and Nepaul, and also from Darjeeling, where Jerdon says it is very common, and may often be seen on the roadside seated on a fallen tree or stone, frequently alighting on the ground to pick up an insect, and occasionally making a dart in the air and returning to its perch. In British Burmah it has been met with in South Tenasserim on the Mooleyit Mountains.

**263. *Siphia ruficauda*, (Swains.) Sharpe, Cat. B. Br. Mus. iv. p. 457.** *Muscicapa ruficauda*, Sws., *Nat. Libr. Flyc.* p. 251. *Cyornis ruficauda*, *Jerd. B. Ind.* i. p. 468, No. 307; *Godw.-Austen, J. A. S. B.* 1870, p. 268; *Brooks, Str. F.* 1875, p. 235; *Fairbank, Str. F.* 1876, p. 257; *Hume, t. c.* p. 396; *Buller, Str. F.* 1877, p. 228; *Brooks, t. c.* p. 470.—THE RUFOUS-TAILED FLY-CATCHER.

Above olivaceous or ashy brown, somewhat buffy on the rump; the upper tail coverts and external edge of the tail feathers rufous, the centre tail feathers and inner webs of the others ashy brown; wing coverts and quills dusky, the latter externally edged with ashy brown, the greater series with narrow pale tips; lores and a conspicuous ring round the eye whitish; ear coverts ashy brown, with narrow whitish shaft streaks; under surface of body dull whitish, ashy on the breast and flanks; under wing and tail coverts fulvescent; bill dusky; irides deep brown.

*Length.*—4·5 inches (5·5 Jerd.); wing 2·6 to 3·1; tail 2·15; tarsus 0·65; culmen 0·55.

*Hab.*—The Indian Peninsula generally. Recorded from the Punjab and N. W. Provinces, also Guzerat, the Concan, Deccan, and South India. It is fairly common in the Kumaon, also Mussoorie between where and Gungotri it was procured by Brooks. Jerdon obtained it in the Carnatic at Nellore and the Coonoor Pass of the Neilgherries. Its habits are those of the last.

**264. *Siphia mandelli*, Hume, Str. F. 1874, p. 510; *id.* 1876, p. 396; Sharpe, Cat. B. Br. Mus. iv. p. 453.**—MANDELL'S FLY-CATCHER.

Forehead, crown, occiput, cheeks, ear coverts and nape brown; lores, a ring round the eye and a patch at the base of the lower mandible white; upper surface of body brown, tinged with rufous near the rump; wings hair brown, darker on the primaries; the secondaries, tertiaries, greater and median wing coverts margined with pale ferruginous on the outer webs; breast, sides and flanks pale brown, margined very narrowly with pale rufous buff; under wing



1. DIGENEA LEUCOMELANURA. ♂
2. DIGENEA MONILIGER. ♂



coverts and axillaries rufous buff; abdomen, vent and under tail coverts white; bill blackish brown, paler at tip; lower mandible yellowish horny; legs and feet fleshy.

*Length*.—5·25 inches; wing 2·9; tail 2; bill at front 0·45; tarsus 0·6. (Hume.)

*Hab*.—Sikkim. Nothing is known of its habits and nidification.

**265. *Siphia olivacea*, (Hume) Sharpe, *Cat. B. Br. Mus.* iv. p. 457. *Cypornis olivacea*, Hume, *Str. F.* 1877, p. 338; *id. Dav. and Hume, Str. F.* 1878, p. 229.—The OLIVE-BACKED FLY-CATCHER.**

Above dull olivaceous, the head and nape very slightly tinged greyish; sides of the head, cheeks and ear coverts ashy grey, with paler shaft streaks; under surface whitish; the breast and flanks tinged grey; tail rufous brown, brighter on the outer webs of the quills, edged with fulvous brown and tinged with rufous brown externally; bill black; iris brown; legs pinkish white.

*Length*.—5·8 inches; wing 3; tail 2·5; tarsus 0·75; culmen 0·8.

*Hab*.—Tenasserim, Java, and Borneo. According to Mr. Davison, this species, like its other congeners, keeps to the forests or its outskirts, and is usually seen singly. They perch on commanding twigs, whence they capture passing insects with short sharp flights, returning to the same perch.

#### Gen. *Digenea*.—Hodgs.

Bill narrow, not as long as hind toe and claw; nostrils covered by rictal bristles and frontal plumes; wings pointed and long, but not reaching to the tip of the tail; hind claw moderate and curved, about equal in length to the hind toe.

**266. *Digenea leucomelanura*, (Blyth). Sharpe, *Cat. B. Br. Mus.* iv. p. 459. *Siphia leucomelanura*, Blyth, *J. A. S. B.* xvi. p. 126; *Jerd. B. Ind.* i. p. 479, No. 320; Hodgs., *icon. ined. Passeres App.* pl. 113. *Siphia tricolor*, Blyth, *J. A. S. B.* xvi., p. 126; *Jerd. B. Ind.* i. p. 478, No. 318; Brooks, *Str. F.* 1877, p. 471.—The SLATY FLY-CATCHER.**

#### PLATE, *Fig. 1.*

Above dull slaty blue, brighter and more ashy blue on the forehead and crown; ear coverts dark slaty blue; a narrow frontal line, lores and feathers in front of and below the eye and the fore part of the cheeks slaty black; wing coverts slaty blue; the greater series blackish brown externally, washed with slaty blue; secondaries the same; primaries brown, edged with ochraceous brown; upper tail coverts darker than the back; tail black, white at base, the two centre feathers entirely black; throat white, rest of under surface of body ashy grey, the flanks dull greyish; sides of upper breast slaty blue; the centre of abdomen white; under tail coverts dusky blackish, with longitudinal white central streaks; under wing coverts and axillaries pale ochraceous, with blackish bases to the feathers; bill dusky; feet brown; iris dark brown.

*Length*.—4·6 inches; wing 2·45; tail 2·2; tarsus 0·75; culmen 0·4.

The female is olive brown, rather more rufous on the forehead, and inclining to fulvescent brown on the rump; upper tail coverts and tail chestnut, the latter brown at the tip and having indistinct transverse lines under certain lights; lesser wing coverts olive brown like the back, the median and greater series dark brown, edged with rufous and tipped with a light rufous spot on each; quills dark brown, externally edged with rufous, more broadly on the secondaries; in front of the eye a dull whitish spot; sides of face olive brown, darker on the ear coverts; the feathers round the eye fulvescent; the cheeks and fore part of the ear coverts mottled with spots of ochraceous buff; throat light ochraceous brown, lighter in the centre; breast, sides of body, and under tail coverts light ochraceous brown, washed with olive on the sides of the upper breast; the centre of the abdomen whitish; thighs brown; under wing coverts and axillaries light ochraceous buff; quills sepia brown below, rufescent along the edge of the inner webs.

*Length*.—4·5 inches; wing 2·35; tail 2; tarsus 0·7; culmen 0·4.

*Hab.*—The Himalayas from Nepal to Sikkim. Has been recorded from Mussoorie and Darjeeling. Breeds throughout the Himalayas, from Nepal to Cashmere, during June, laying 4 eggs of a pale buff colour, clouded with dull rufous towards the larger end; size 0·62 × 0·48.

**267. *Digenea cerviniventris*, Sharpe, Cat. B. Br. Mus. iv. p. 460; *Siphia tricolor*, Godw.-Austen, J. A. S. B. 1872, p. 142 (nec. Hodgs). *Siphia leucomelanura*, Godw.-Austen, J. A. S. B. 1878, p. 15 (nec. Blyth).—THE FAWN-BELLIED FLY-CATCHER.**

“Similar to *D. leucomelanura*, but deep fawn-coloured underneath instead of white.”

*Length*.—4 inches; wing 2·2; tail 1·9; culmen 0·35.

*Hab.*—Khasia and neighboring range of hills (Munipoor). (Sharpe.)

**268. *Digenea moniliger*, (Hodgs.) Sharpe, Cat. B. Br. Mus. iv. p. 460; Oates, B. Br. Burm. i. p. 300. *Dimorpha? moniliger*, Hodgs. P. Z. S., 1845, p. 26. *Anthipes moniliger*, Blyth, Cat. B. Mus. A. S. B. p. 172; Jerd. B. Ind. i. p. 477, No. 317; Hume, Str. F. 1877, p. 113.—THE WHITE GORGETED FLY-CATCHER.**

#### PLATE, Fig. 2.

Forehead and a broad but short superciliary band fulvous; upper plumage olive brown, tinged with rufous on the rump; upper tail coverts and tail reddish brown; wing coverts and wings brown, edged with rufous; sides of the head olive brown; chin and throat white, surrounded by a distinct line of black; lower plumage brown, becoming albecent on the abdomen; bill black; legs pale fleshy; irides dark brown.

*Length*.—4·2 to 5 inches; wing 2·3 to 2·4; tail 2; tarsus 0·8; culmen 0·5 to 0·6.

*Hab.*—Eastern Himalayas, Arrakan, Naga Hills, and Karin Hills in Burmah, also Nepal.

Jerdon says this species is common in the hilly regions of Arrakan and Tenasserim, and probably occurs also in Assam. It is not uncommon about Darjeeling, frequenting open forests, and may be often seen seated on a low branch or the stump of a tree, sometimes catching insects in the air or descending to the ground to pick one up.

**269. *Digenea submoniliger*, (Hume) Sharpe, Cat. B. Br. Mus. iv. p. 461. *Anthipes moniliger*, Hume, Str. F. 1874, p. 475 (nec. Hodgs.). *Anthipes submoniliger*, Hume, Str. F. 1877, p. 105; id. Dav., Str. F. 1878, p. 232.**—HUME'S WHITE GORGETED FLY-CATCHER.

Upper plumage fulvous brown; forehead, lores, a broad supercilium and a circle of feathers round the eye rich golden fulvous; chin and throat white, with a few black feathers on the sides of the chin; a narrow, scarcely noticeable brown line bounds the white on the throat; lower breast and flanks olive brown; abdomen, vent and under tail coverts white; wings and coverts brown, edged with rufous; tail ferruginous; bill black, yellowish on lower mandible; legs and feet pale fleshy white.

*Length*.—5·2 inches; wing 2·45; tail 2; tarsus 0·87; culmen 0·6.

*Hab.*—Tenasserim, where Mr. Davison met with it, about Mooleyit and its spurs.

#### Gen.—*Niltava*.—Hodgs.

Bill rather short and stout, slightly depressed at base; tip deflected and strongly notched; nostrils hidden by frontal plumes; rectal bristles feeble; wings very short, the distance between wings and tail more than twice the length of the tarsus; quills unequally graduated; 5th longest; tail moderate.

**270. *Niltava sundara*, Hodgs., Ind. Rev. i. 658; Jerd. B. Ind. i. p. 473, No. 314; Hume, Nests and Eggs, Ind. B. p. 213; Bl. B. Burm. p. 102; Hume and Dav., Str. F. p. 231; Hume, Str. F. vii. p. 93; Sharpe, Cat. B. Br. Mus. iv. p. 463; Hume, Str. ix. p. 234; Oates, B. Br. Burm. i. p. 295.**—THE RUFOUS-BELLIED FAIRY BLUE-CHAT.

Forehead, lores, sides of the head, chin, and throat deep black; crown of head, nape, rump, upper tail coverts and a spot on either side of the neck glistening blue; lesser wing coverts the same; median and greater coverts and quills dark brown, edged with purplish blue; back and scapulars purplish black; tail black, the outer webs tinged with bright blue; lower plumage and under wing coverts chestnut; edge of wing blue black; bill black; legs brown; iris dark brown.

*Length*.—6·5 inches; wing 3·1; tail 2·8; tarsus 0·85; culmen 0·45.

The female has the upper plumage olive brown, tinged with fulvous; the tail is rufous, the forehead and sides of the head are mingled buff and ashy brown; ear coverts paler shafted; neck spot blue; under surface ashy brown, becoming whitish on the abdomen; front of neck with a white patch.

The young are dark brown, streaked above and below with fulvous; outer webs of wings and tail tinged with blue. No blue neck spot.

*Length*.—6·0 inches; wing 3·1; tail 2·8; tarsus 0·85.

*Hab.*—The Himalayas, extending to the Burmese countries and Western China. (Sharpe). The Rufous-bellied Fairy Blue-Chat occurs in the Punjab, N. W. Provinces, Oudh, British Burmah and Nepaul. It inhabits the whole extent of the Himalayas, being common at Simla, and extending to Assam. About Darjeeling, Jerdon adds it is not rare. It has been recorded from Arrakan and Tenasserim, and Captain Wardlaw-Ramsay procured it in Karim. It frequents thick bushy ground, often near water, is shy and wary, seldom showing itself. It feeds chiefly on insects, which it captures on the ground or picks off leaves and branches.

It breeds in the Himalayas during April and May. The nest is usually placed on some rocky ridge or crevice, or in some decayed stump of a tree. The eggs are 4 in number, and longish oval, in color pale reddish buff, faintly freckled with dingy; size 0·93 × 0·71.

**271. *Niltava vivida*, (Swinhoe). Sharpe, *Cat. B. Br. Mus.* iv. p. 463; Oates, *B. Burm.* i. p. 297. *Cyornis vivida*, Swinhoe, *Ibis*, i. 864, p. 363; Hume and Dav., *Str. F.* 1878, p. 229; Hume, *Str. F.* viii. p. 92.—SWINHOE'S RUFOUS-BELLIED BLUE-CHAT.**

Whole upper plumage, lesser wing coverts and sides of the neck deep purplish blue, becoming ultramarine on the head, rump and upper tail coverts; a narrow frontal line, lores, and feathers in front of the eye black; cheeks and ear coverts blue-black; *chin and throat bluish black*, the rest of under surface chestnut; central tail feathers blue, the rest black, broadly margined on the outer web with blue; quills black, washed externally with purplish blue; lesser and median wing coverts the same; under wing coverts chestnut; bill black; legs and feet dark brown or purplish plumbeous; irides deep brown.

*Length*.—5·7 to 6 inches; wing 3·25 to 3·5; tail 2·65 to 3; tarsus 0·75; culmen 0·5.

The female is olive brown above, with a grey shade on the mantle; the lores, feathers at the base of the upper mandible and round the eye are mixed ferruginous and grey; crown olive brown washed with blue; median and greater coverts and quills are brown, margined externally with a shade of blue; tail brown, margined externally with ferruginous; chin and throat

ochraceous buff; under wing and under tail coverts the same; rest of under surface ashy, tinged with ochraceous; the centre of abdomen whitish.

*Hab.*—Formosa and the Tenasserim Province of British Burmah.

Swinhoe's Rufous-bellied Chat was obtained by Davison on the Mooleyit Mountain in Tenasserim. It extends to China. According to Davison this species moves about on the tops of trees by short flights. He always saw them singly.

**272. *Niltava grandis*, (Blyth).** *Jerd. B. Ind.* i. p. 476, No. 316; *Hume, Nests and Eggs*, p. 215; *Bl. B. Burm.* p. 102; *Hume, Str. F.* v. p. 103; *Hume and Dav.* vi. p. 232; *Sharpe, Cat. B. Br. Mus.* iv. p. 464; *Hume, Str. F.* viii. p. 93; *Oates, B. Burm.* i. p. 297. *Chaitaris grandis*, Blyth, *J. A. S. B.* xi. p. 189.—THE LARGE FAIRY BLUE-CHAT.

Above dark purplish blue; the forehead, crown, nape, rump, upper tail coverts, lesser and median wing coverts and a large spot on each side of the neck brilliant smalt-blue; lores, feathers above the eye, sides of face and entire throat and fore neck black; greater coverts and quills black, narrowly margined externally with blue. Central tail feathers purplish blue; rest brown, margined externally with blue; under surface of body dusky black, tinged with purplish, the under tail coverts edged with white; bill black; legs reddish black; iris dark brown.

*Length.*—7·5 to 8 inches; wing 4·2; tail 3·6; tarsus 0·9; culmen 0·7.

The female is brown above, tinged with fulvous; the tail is chestnut brown; forehead, sides of the head, chin and throat bright fulvous brown, mottled with dusky; under surface ochraceous brown, tinged with ashy on the abdomen.

*Hab.*—The Himalayas, extending into the Burmese countries and to Sikkim and Nepaul.

The Large Fairy Blue-Chat is found in the hill tracts of Eastern Bengal. Jerdon says it is common about Darjeeling, and Mr. Davison says it is not uncommon on the Mooleyit Mountain and its spurs. In Assam, too, it is fairly common. It is quite a forest bird, seen only on trees, dry brushwood, and even fallen trees. It occasionally catches insects on the wing. According to Hodgson it lays during April and May. Nest massive, composed of green moss and lichen, and lined with fine moss roots. Eggs, four in number, of a buffy color. In size they average 1·0 × 0·73.

**273. *Niltava leucoprocta*, (Tweed.)** *Wardlaw-Ramsay, Tweed. Mem. App.* p. 668; *Oates, B. Br. Burm.* i. p. 298. *Trichastoma leucoproctum*, Tweed. *P. Z. S.* 1877, p. 366; *Hume, Str. F.* vii. p. 318. *Niltava leucura*, *Ann. Nat. Hist. Scr.* 4, xx. p. 95. *Muscitrea cyanea*, *Hume, Str. F.* v. p. 101; *Hume, Str. F.* vi. p. 207; *id. Str. F.* vii. p. 318, viii. p. 91.—THE WHITE-TAILED BLUE-CHAT.



Nasal plumes and lores black ; forehead, crown, nape and a small patch on the wing coverts near the edge of the wing cobalt blue ; upper plumage and wing coverts deep blue ; quills dark brown, edged with blue ; four central feathers dull blue ; the next pair dark brown, edged with blue and with a long streak of white on the outer web ; the next two pairs brown on the outer webs and almost entirely white on the inner webs ; the outermost pair brown, merely white at the base ; sides of the head and neck, chin and throat, dull blue ; *abdomen and sides of the body bluish grey* ; vent and under tail coverts pure white ; under wing coverts ashy.

The female has the nasal plumes and lores reddish brown ; the upper plumage olive brown tinged with rufous ; wing coverts and quills dark brown, margined with rufous ; tail the same, the white on the feathers the same as in the male, except that the outermost feathers are broadly edged with white on the inner web ; chin, throat, breast and sides of the body rufous olive ; foreneck with a large patch of white ; centre of abdomen whitish ; vent and under tail coverts white ; under wing coverts and axillaries rufous ashy ; bill black ; legs light brown ; irides deep brown. (Limborg.)

*Length*.—7 inches ; tail 3 ; wing 3·6 ; tarsus 0·9 ; bill from gape 1. (Oates.)

*Hab*.—Tenasserim, where it was procured by Mr. Limborg ; at Tao and on the Mooleyit Range at elevations of 5,000 and 2,000 feet. It is, according to Davison, an eminently forest bird. It has the habit of rapidly expanding its tail, thus showing the white on it.

**274. *Niltava macgrigorix*, (Burton.)** *Jerd. B. Ind.* i. p. 475, No. 315 ; *Hume, Nests, and Eggs*, p. 214 ; *Wald in Bl. B. Burm.* p. 102 ; *Hume and Dav., Str. F.* vi. p. 231 ; *Sharpe, Cat. B. Br. Mus.* iv. p. 465 ; *Hume, Str. F.* viii. p. 93 ; *Phoenicura macgrigorix*, *Burton, P. Z. S.* 1835, p. 152. *Niltava vivida*, *Hume, Str. F.* ii. p. 475.—The SMALL FAIRY BLUE-CHAT.

Above rich purplish blue ; forehead, eyebrow, rump, upper tail coverts and a spot on each side of the neck brilliant rich cobalt ; lores, sides of face, feathers above the eye and entire throat deep purple ; lesser wing coverts purplish blue ; median coverts and quills black, edged externally with purplish blue ; tail feathers deep purplish blue, all but the centre feathers black on the inner web ; lower plumage ashy, becoming albescent on the abdomen and under tail coverts ; under wing coverts and axillaries pure white ; bill black ; legs reddish black ; iris dark brown.

The adult female is plain olivaceous above, lighter below, with a neck patch of light lavender blue.

*Length*.—4·6 to 4·8 inches ; wing 2·6 ; tail 2·15 ; tarsus 0·7 ; culmen 0·6.

*Hab*.—The Himalayas up to Simla in the N. W. Provinces, also Oudh, the hills of Eastern Bengal, Assam, Sikkim, British Burmah and Nepaul.

Jerdon says it is common at Simla and about Darjeeling, and, according to Oates, has been recorded from Arrakan and Tenasserim by Blyth. According to Hume (Nests and Eggs) it breeds in Nepaul and Sikkim from April to June at from 3,000 to 5,000 feet. The nests are placed on the ground and are composed of soft moss of different kinds. Eggs 3 to 4 in number.

### Family.—TURDIDÆ.

Bill slender but rather wide and depressed; *wing long and flat, with a very small bastard primary not more than half the length of the second*, the latter generally longer than the secondaries. Composed of birds generally migratory.

### Sub-family.—SYLVIINÆ—GREY WARBLERS.

The young in first plumage differ very slightly in color from the adult, both being unspotted both above and below. In rare instances in which the upper parts are spotted in the adult the spots are less conspicuous in the young. (Seebohm.)

### Gen. *Sylvia*.—*Scop.*

Bill Sylviinæ, generally with more or less dark underneath; nostrils in a groove. Tail nearly even, generally with white on the outermost tail feathers; bastard primary not extending beyond the primary coverts, or not more than 0.3; 2nd primary generally shorter than the 3rd and 4th; feet and tarsus stout, latter scutellated in front. The males of many have dark heads.

**275. *Sylvia cinerea*, Bechst. Orn. Taschenb. i. p. 170; Tem. Man. d'Orn. p. 112; Gray Gen. B. i. p. 174; Heugl. Orn. N. O. Afr. i. p. 307; Blf. Geol. and Zool. Abyss. p. 379; Shelley, B. Egypt, p. 111. Curruca cinerea (Bechst.) Gould B. Eur. ii. pl. 125. *Sylvia rufa*, (Bodd) Pl. E. p. 35; apud. Newt. ed. Yarr. B. Eur. pt. 1; Hume, Str. F. iii. 488; Murray, Hdbk. Zool., &c., Sind, p. 163; Murray, Vert. Zool., Sind, p. 162.—The EUROPEAN WHITE-THROAT.**

“*Male*.—Over the eye is a streak of yellowish white. Head on the crown slate grey with a tinge of brown; neck on the sides pale brownish grey; on the back and nape, lighter greyish brown than the head; chin and throat silvery white, the latter has the feathers somewhat puffed out as when it is inflated in singing; breast above pale dull white, tinged with rose colour, and on the sides shaded off to yellowish white, and into greyish white below; back reddish brown, but tinged with olive on its lower part. The wings extend to within an inch and a half of the end of the tail. Expanse  $8\frac{1}{2}$  inches. The first primary extremely short; the 2nd and 3rd of equal length and the longest; edge of outer quill white; underneath grey; greater and lesser wing coverts reddish brown; primaries pale brown, narrowly edged with chestnut; the secondaries and tertiaries also pale brown, broadly edged with brighter chestnut than the former; tail somewhat rounded, graduated and brown; middle feathers

margined lighter; outer feather on each side dull white over the greater portion or the whole of outer web, and often a portion of the inner; next two feathers tipped with the same. Tail underneath grey; upper tail-coverts inclining to olive brown; under tail coverts pale brownish white, with a tinge of faint rose red; legs pale rusty brown; toes darker with more of an olive tinge; claws dusky brown.

"*Length*.— $5\frac{1}{2}$  to 6 inches; bill bluish brown, base of under mandible yellowish brown, and the corners of the mouth yellowish green; iris brownish yellow. A winter visitant."—*Morris, Br. Bird*, vol. iii. p. 227.

*Hab.*—Europe, extending to Persia, Siberia and Turkestan; Sind, Punjab, N. W. Provinces, Bengal, Guzerat, Western, Central and Southern Africa.

**276. *Sylvia jerdoni***, *Blyth, J. A. S. B.* xvi. p. 439; *Blf. East. Persia*, ii. p. 172; *Hume, Str. F.* i. p. 197, ii. 330; *Seeböhm Monog. B. Br. Mus.* v. p. 16; *Murray, Vert. Zool., Sind*, p. 161.—THE EASTERN ORPHEAN WARBLER.

*Adult Male*.—General colour slaty grey; head, lores, and feathers behind the eye, ear coverts and nape sooty black; primaries and secondaries brown, their outer margins whitish, the secondaries edged at the tips with greyish white, as also some of the tertiaries; tail darker brown than the wings, the outermost feathers white on the outer web, and nearly one-half of the inner, the next two tipped white; in some specimens the centre feathers are margined very narrowly and tipped with fulvescent white; chin and throat white; belly, flanks, vent and under tail coverts greyish white, darker on the under tail coverts; bill dark brown; the base of the lower mandible pale yellowish; legs and feet dusky brown; irides hazel.

*Length*.—6.75 to 7 inches; wing 3 to 3.25; tail 2.75. The *Female* differs from the male in having the brown of the head less darker than the back.

*Hab.*—Northern, Southern and Western India, Sind, Punjab, N. W. Provinces, Beloochistan, S. E. Persia, Afghanistan, Turkestan, Kutch, Kattiawar; Jodhpore, Jeypore, North Guzerat, Mount Aboo and Deccan. Breeds in Persia and Turkestan; winters in Arabia and the plains of India.

**277. *Sylvia affinis***, *Blyth, Cat. B. Mus. As. Soc.* p. 187; *Hume, Str. F.* vii. p. 60; i. 197; ii. 332; iii. 272; *Jerd. B. Ind.* ii. 209, No. 582; *Murray, Hdbk., Zool., &c., Sind*, p. 163. *Sylvia curruca*, *apud. Jerd. B. Ind.* ii. p. 209; *apud. Blf. East. Persia*, ii. p. 175; *Murray, Vert. Zool., Sind*, p. 161.—THE ALLIED GREY WARBLER.

General colour pale slaty or brownish grey; supercilium indistinct; wings and tail brownish; outermost tail feather on each side white on their outer webs; chin, throat, belly, and under tail-coverts, also axillaries and under wing coverts, white, tinged greyish brown on the breast and flanks; bill and legs brown, irides light brown.





*Sylvia minuscula.*

*Length*.—6 inches ; wing 2·5 ; tail 2·25 ; bill at front 0·51.

*Hab.*—Nearly all India and Ceylon, Sind, Punjab, N. W. Provinces, Behar, Deccan, Kutch, Guzerat, Kattiawar, Jodhpore and Sambhur ; also Beloochistan, Persia, S. Afghanistan and Turkestan. Seebohm says it breeds throughout Siberia, extending northwards almost to the limit of forest growth.

**278. *Sylvia althea***, *Hume, Str. F.* vii. p. 60 ; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 20 ; *Sylvia affinis*, *Blyth apud. Ferd. B. Ind.* vol. ii. p. 209 ; *apud. Legge, B. Ceylon*, p. 538 ; *Murray, Vert. Zool., Sind*, p. 162.—THE HIMALAYAN LESSER WHITE-THROAT.

Upper surface darkish grey, slightly tinged with brown on the back. Under surface white ; 2nd primary intermediate in length between, or equal to 6th and 7th, or 7th and 8th ; wing 2·7 to 2·8 ; culmen 0·56 to 0·51 ; tarsus 0·8 to 0·75.

*Hab.*—Sind, Punjab, N. W. Provinces, Oudh, Deesa, Concan and Deccan. A winter visitant.

**279. *Sylvia minuscule***, *Hume, Str. F.* i. 198 ; vii. 58 *et seq.* ; viii. pp. 103, 388, 498 ; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 20, pl. 1 ; *Murray, Vert. Zool., Sind*, p. 161.—HUME'S LESSER WHITE-THROAT.

#### PLATE.

Forehead and crown pale bluish grey ; back, rump and upper tail coverts isabelline fawn, or pale sandy brown ; chin, throat and under surface white ; 2nd primary equal to the 7th, in some intermediate between 7th and 8th ; wing 2·3 to 2·45.

*Hab.*—Sind, Beloochistan, Afghanistan, Punjab, N. W. Provinces, Rajputana, Kutch and Guzerat.

**280. *Sylvia nana***, *Hempr. et Ehr. Symb. Phys. Aves.* fol. c. c. ; *Gray, Handlist B.* p. 212 ; *Hougl. Orn. N. O. Afr.* i. p. 306 ; *Dresser, Ibis*, 1876, p. 80 ; *Blf. East. Pers.* ii. p. 187 ; *Str. F.* i. 199 ; ii. 330 ; *Murray, Hdbk., Zool. &c., Sind*, p. 164 ; *Seebohm, Cat. B. Br. Mus.* v. p. 26. *Sylvia delicatula*, *Hartlaub. Ibis*, 1859, p. 340, pl. x. fig. i. ; *Blyth, Ibis*, 1867, p. 28 ; *Hume, Ibis*, 1869, p. 355 ; *Str. F.* i. p. 199 ; *Murray, Vert. Zool., Sind*, p. 163.—THE DESERT WARBLER.

“ The lores are greyish white ; from the nostrils to the upper margin of the eye runs a very narrow yellowish streak, whiter and less grey than the lores ; this line ceases to be visible in nine out of ten skins, but is sufficiently apparent in the freshly killed bird. A circle of yellowish white feathers surrounds the eye ; forehead, crown, occiput, nape, back and scapulars pale fawn brown ; rump and upper tail coverts pale rufous ; central tail feathers pale rufous, with dark shafts ; external lateral feathers wholly white ; next

pair white on the outer webs, and with a moderately broad white tip to both webs, the rest of the inner webs dark hair brown; the rest of the feathers dark hair brown, margined on the outer webs with pale rufous. The whole of the lower parts white, with, in the freshly-killed birds, a just perceptible rufescent tinge; wing lining and axillaries pure white; wing pale brown, narrowly margined and tipped with rufescent white; the tertiaries pale dingy rufescent with brown shafts.

"*Length*.—4·8 to 4·9 inches; expanse 7 to 7·2; tail from vent 1·8 to 2; wing 2 to 2·2; wing when closed reach to within 1 to 1·2 of end of tail; bill at front 0·3 to 0·33; tarsus 0·8; irides yellow to orange yellow; legs and feet pale yellow, in some very pale lemon yellow; claws dusky; bill pale yellow, dusky, or horny grey on culmen and at tip." (*Hume, Str. F.* i. p. 199.)

*Hab.*—Sind, Beloochistan, Kokand, Southern Persia and Algiers; also Punjab, N. W. Provinces and Rajputana. Breeds in Turkestan. In Sind it is a winter visitant, affecting arid plains, and sides of hills wherever there is an abundance of scrubby vegetation.

**281. *Sylvia familiaris*, *Menetries, Cat. Rais. Cauc.* p. 32; *Seebohm. Monog. B. Br. Mus.* v. p. 36. *Aedon familiaris* (*Menetr.*) *Gray, Gen. B.* i. p. 173; *id. Handlist B.* i. p. 211; *Dresser, B. Eur.* pt. xxxii.; *Hume, Str. F.* iii. p. 476; *Murray, Hdbk., Zool. &c., Sind*, p. 151; *Murray, Vert. Zool., Sind*, p. 163;—THE GREY-BACKED WARBLER.**

The following is Mr. Hume's description of Indian specimens, *ex* "*Stray Feathers*," vol. iii. p. 477.

"A broad superciliary stripe from the nostrils over and for some little distance behind the eyes dull white or yellowish white; a brown stripe from the nostrils to the anterior angle of the eye, continued backwards, though not conspicuous, for some distance from the posterior angle; forehead, crown, occiput, sides of the neck, entire back and wing dull earthy brown, paler and more drabby in some; quills and coverts margined and narrowly tipped with dull yellowish or brownish white, with usually a slight rufescent tinge on the margins of the primaries. Rump brownish chestnut; upper tail coverts and tail chestnut; central tail feathers more or less brown on one or both webs; all the other tail feathers with a conspicuous subterminal dark brown band (which in the outer feathers runs some distance down the outer web) and tipped, the two pairs next the centre narrowly with rufescent, and the other three successively more and more broadly with pure white. Chin and throat sordid white, with an indication of a darker line at the angle of the gape; ear coverts and the rest of the lower parts similar, but tinged with a faint brownish shade usually; wing lining and axillaries with a very faint yellowish salmon tint; inner margins of quills, on the lower surface, with a decided buffy salmon tinge.

*Length.*—*Male*, 6·5 inches; expanse 9·75; tail from vent 2·62; wing 3·3; tarsus 0·97; bill at front 0·77; bill at gape 0·87.

*Length.*—*Female*, 7·5 inches; expanse 10·62; tail 2·62; wing 3·5; tarsus 1·03; bill at front 1·08; bill from gape 0·93; mid-toe and claw 0·87; hind-toe and claw 0·56.

“The first quill is about 0·75 long; the third quill is longest; the second and fourth, which are nearly equal, about 0·06 shorter; the fifth about 0·25 shorter, tail somewhat rounded; outer tail feathers about 0·35, shorter than those next the central pair, which latter are shorter than those next them by about 0·15; the frontal feathers are prolonged over the base of the bill, extending laterally quite to the nostrils; legs and feet dusky or livid fleshy; irides dark brown; bill dusky brown; lower mandible yellowish, fleshy at the base.”

*Hab.*—Afghanistan, Beloochistan, Persia, Sind, Kutch, Jodhpore and North Guzerat, visiting Sind in the course of its migration about the middle of September.

Gen. **Phylloscopus.**—*Boie*; WILLOW-WARBLED.

Bill Acrocephaline, pale underneath, slender, small, straight, with a few short rictal bristles; wings long, flat, and pointed, or short and rounded as in those which inhabit the plains and breed in the mountains near by; bastard primary small; greater wing coverts with pale tips in the spring plumage; *axillaries and under wing coverts yellow.*

This genus comprises a group of birds, mostly of small size, familiarly known as Willow or Tree Warblers, tolerably abundant throughout India during winter—a very few only of which are known to breed in the Himalayas. They are exclusively fly-catchers or insectivorous, feeding on minute insects and flies, which they pick off leaves and branches or capture in the air, and may be said to be strictly arboreal. The majority have their summer residence in Europe or Western Asia, and migrate thousands of miles in winter. Seebohm says: “In their breeding range these birds are palæarctic, ranging from the Atlantic to the Pacific, one species being known even to cross Behring’s Straits into Alaska.” Those which breed in the Himalayas ascend till they reach a palæarctic climate.

*No mesial line on the crown.*

**282. *Phylloscopus borealis.*** (*Blas.*) *Seebohm, Ibis*, 1877, p. 69; *Dresser, B. Eur.* ii. p. 509; *Hume and Dav.*, vi. p. 352; *Hume, Str. F.* viii. p. 102; *Seebohm, Ibis*, 1879, p. 9; *id. Cat. B. Br. Mus.* v. p. 40; *Oates, Str. F.* x. p. 222; *id. B. Burm.* i. p. 77. *Phyllopneuste borealis*, *Blas. Naum.* 1858, p. 313.—THE ARCTIC WILLOW-WARBLED.



Above olive green, lighter or somewhat yellow on the rump; wing coverts brown, the outer webs margined with olive green; median and greater coverts with yellowish white tips forming two bars, a well-defined narrow yellow or greyish white eye stripe extending to the nape; lores and feathers behind the eye brown; ear coverts olive mingled with yellowish; under wing coverts and axillaries, also the thighs, pale yellow; tail brown, the outer webs olive green, the inner webs except the central feathers brown, margined with greyish white; under surface of body white, slightly suffused with yellow; bill Acrocephaline; upper mandible dark brown, under mandible pale; iris dark brown; legs and feet brown; 2nd primary intermediate in length between the 5th and 6th; 3rd and 4th longest; 1st primary 0.3 to 0.45.

*Length*.—4.8 inches; wing 2.5 to 2.7; tail 2; tarsus 0.8; culmen 0.68.

In summer the upper parts become greyer, the olive green margins to the wing and tail feathers and the tips to the wing coverts disappear, and the under surface is nearly pure white.

*Hab.*—The Arctic Willow-Warbler is a winter visitor to Burmah. It has been found in Pegu and Kyeikpadien and in the southern half of Tenasserim at Bankasoon and Malewoon. It extends down the Malay Peninsula and Archipelago as far as Timor and Flores, also Cochin-China. On the Andaman Island it has also been procured, but no where north or west of Burmah.

Mr. Seebohm found the nest in Siberia. It was built on the ground in a wood thinly scattered with trees, and was placed in a recess on the side of a tussock or mound of grass. It was semi-domed, the outside being composed of moss and the inside of fine dry grass. The eggs, five in number, were white, profusely spotted all over with pale pink.

**283. *Phylloscopus nitidus*, Blyth, *J. A. S. B.* xii. p. 965; xiv. p. 591; *Jerd. B. Ind.* ii. p. 193, No. 559; *Hume, Str. F.* 1873, p. 197; *Legge, Ibis*, 1874, p. 22; *Seebohm, Ibis*, 1877, p. 72; *id. Cat. B. Br. Mus.* v. p. 43; *Murray, Hdbk., Zool. &c., Sind*, p. 162; *Murray, Vert. Zool., Sind*, p. 159. *Phyllopneuste nitida*, (Blyth) *Adam, Str. F.* 1873, p. 382.—  
THE GREEN WILLOW-WARBLER.**

Head, nape, back, scapulars, rump and upper tail coverts yellowish green; supercilium extending to the nape yellow; lesser wing coverts and tips and edges of the median ones like the back; greater wing coverts brown, edged with yellowish green and tipped yellow, forming a conspicuous wing band; primaries, their coverts and secondaries brown, edged on their outer webs with yellowish green; 2nd primary intermediate in length between 6th and 7th; exposed 1st primary 0.55 to 0.6; edge of the wing, under wing coverts and entire under surface yellow or yellowish green; in some specimens albescent on the chin; bill dusky brown; the lower mandible pale; legs light brown; irides dark brown.

*Length*.—4·5 to 4·75 inches; wing 2·5; bill at front 0·5.

*Hab*.—Sind, Punjab, N. W. Provinces, Oudh, Bengal, Concan, Deccan, Southern India, Ceylon, and Nepaul; breeding in the Himalayas and wintering in the plains.

**284. *Phylloscopus viridanus***, *Blyth, J. A. S. B.* xii. p. 967; *Ferd. B. Ind.* ii. p. 193, No. 560; *Brooks, Ibis*, 1872, p. 31; *Scully, Str. F.* iv. p. 148; *Seebohm, Ibis*, 1877, p. 73; *Hume, Str. F.* vi. p. 356. *Phyllopneuste viridanus*, *Blyth and Wald.*, *B. Burm.* p. 105. *Phylloscopus seebohmi*, *Hume, Str. F.* v. p. 355.—THE INDIAN WILLOW-WARBLER.

Similar to *Phylloscopus nitidus*, except that the quills are narrowly tipped with pale white and that the *greater coverts only are tipped with pale yellowish white*, and so forming only one wing bar; 3rd, 4th and 5th primaries longest; 2nd intermediate in length between 7th and 8th, sometimes between 6th and 7th; 2nd primary 0·5 to 0·65.

*Length*.—4 inches; wing 2·3 to 2·5; tarsus 0·75; culmen 0·45 to 0·5.

*Hab*.—The Himalayas up to Cashmere, where it breeds. In winter it is found all over India nearly. It has been recorded from Arrakan, in Tenasserim at Thatone, Moulmein, and Tavoy, and extends through the Indo-Burmese countries to Cochin-China. In India proper it is recorded as having occurred in the N. W. Provinces, Oudh and Bengal, also Rajputana and Southern India; also from Nepaul. Mr. Brooks found its nest in Cashmere at an elevation of 11,000 feet. It was a domed structure, placed on the steep bank side of a ravine full of birch trees, but it did not contain eggs.

**285. *Phylloscopus plumbeitarsus***, *Swinh., Ibis*, 1861, p. 330; *Seebohm, Ibis*, 1877, p. 76; *Hume and Dav.* vi. p. 355; *Brooks, Str. F.* vii. p. 508; *Hume, Str. F.* viii. p. 385; *Bingham, Str. F.* ix. p. 187; *Seebohm, Cat. B. Br. Mus.* v. p. 45. *Phyllopneuste plumbeitarsus*, *David et. Oust. Ois Chine*, p. 270.—MINDENDORFF'S WILLOW-WARBLER.

Similar to *Phylloscopus viridanus*, except that the greater and median coverts are pale tipped and form two bars on the wing; the ear coverts are greenish yellow, and the under plumage *pale greyish yellow*; bill pale yellow on lower mandible, brown on the upper.

*Length*.—4·2 inches; wing 2·2; tail 1·7; tarsus 0·7; culmen 0·6; 2nd primary intermediate in length between 7th and 8th, occasionally equals the 8th; 1st primary 0·5 to 0·7. *Legs plumbeous*.

*Hab*.—British Burmah. According to Oates it is a very common winter visitor to Pegu.

Mr. Davison obtained it in December near Moulmein, and Captain Bingham observed it in the Thoungyeen Valley. It passes through China on migration,

and appears to summer in Turkestan and Southern Siberia. It frequents thickly foliated trees. Nothing is known of its nidification.

**286. *Phylloscopus tenellipes*, Swinh., *Ibis*, 1860, p. 53; Seebohm, *Ibis*, 1877, p. 75; Brooks, *Str. F.* iv. p. 276; Hume and Dav., *Str. F.* vi. pp. 354, 517; Hume, *Str. F.* viii. p. 102; Seebohm, *Cat. B. Br. Mus.* v. p. 46; Oates, *Str. F.* x. p. 222; id. *B. Br. Burm.*, i. p. 81.—The PALE-LEGGED WILLOW-WARBLER.**

Above olive brown, suffused with buff, especially on the rump; a buffish white narrow eye streak extending to the nape; lores and feathers behind the eye blackish; ear coverts mingled buff and brown; wings brown, edged with olive brown; the median and the greater coverts tipped with buff, forming two distinct wing bars. Under surface of body white, suffused with buff, especially on the flanks and vent.

Tail feathers brown, externally margined with pale buffish brown, and the inside webs with buffish white.

Bill Acrocephaline; upper mandible dark brown, lower mandible pale iris brown; *legs, feet and claws pale flesh colour*; 3rd, 4th and 5th primaries longest; 2nd equal to the 7th; 1st primary 0·5 to 0·53.

In autumn plumage the olive brown of the upper parts is replaced by russet brown, the eye stripe and under surface more suffused with buff.

*Length*.—5·15 inches; wing 2·2 to 2·67; tail 2; tarsus 0·73; bill from gape 0·65.

*Hab.*—British Burmah and southwards in the Malay Peninsula. It is also recorded from Cochin-China, Amoy, and Peking. Oates says the Pale-legged Willow-Warbler is a winter visitor to Burmah, but a comparatively rare one. It was obtained by Davison in various parts of Tenasserim. It is said to breed in Japan. Habits the same as other *Phylloscopi*.

**287. *Phylloscopus magnirostris*, Blyth, *J. A. S. B.* xii. p. 966; *Jerd. B. Ind.* ii. p. 191, No. 556; Brooks, *Str. F.* iii. p. 243; Seebohm, *Ibis*, 1877, p. 77; Hume and Dav., *Str. F.* vi. p. 355; Hume, *Str. F.* viii. p. 102; Seebohm, *Cat. B. Br. Mus.* v. p. 47; Oates, *B. Br. Burm.* i. p. 82. *Phyllopneuste magnirostris*, *Bl. B. Burm.* p. 105.—The LARGE-BILLED WILLOW-WARBLER.**

Above dark olive green, slightly darker on the head and somewhat greener on the rump; eye stripe pale yellowish white; lores and feathers behind the eye brown; ear coverts yellowish white, suffused with brown; wing coverts and wings brown, edged with olive; the median coverts with small and the greater coverts with large yellowish white tips, forming two distinct wing bars; tail brown, edged with olive green on the outer webs and tipped paler

beneath; the inner webs, except those of the central tail feathers, with a narrow greyish white margin. Under surface of body pale greyish yellow, greyest on the breast and flanks; axillaries, under wing coverts and thighs greyish yellow. Bill much decurved at tip, the rictal bristles well developed; upper mandible dark brown, under mandible pale, darker towards the tip; legs, feet and claws bluish brown; 4th and 5th primaries longest; 2nd intermediate between 7th and 8th, 1st primary 0.6 to 0.75.

*Length*.—5.4 inches; wing 2.7; tail 2.2; bill from gape 0.65.

*Hab*.—The Punjab, N. W. Provinces, Oudh, Bengal, Central India, the Central Provinces, Deccan, and South India, also British Burmah, Cashmere and Nepaul. It has been recorded from Arrakan by Blyth. Davison procured it in Tenasserim, and Mr. Hume records it from the Malay Peninsula. It is generally spread over the whole Peninsula of India, Ceylon, and the Andamans, and summers in the Himalayas up to Cashmere, where it breeds.

Mr. Brooks, who met with this species in the Himalayas, says: "The conditions this bird require are wooded cliffs or very steep rocky banks impracticable for man, and plenty of flowing water below. Above a roaring torrent it is in its element and sings most vigorously.

**288. *Phylloscopus lugubris*, Blyth, *Ann. Nat. Hist.* xii. p. 98; Blyth and Walden, *B. Burm.*, p. 105; Blyth, *J. A. S. B.* xii. p. 968; *Jerd. B. Ind.* ii. p. 192, No. 558; Seebohm, *Ibis*, 1877, p. 78; Hume, *Str. F.* vi. p. 355; Anders. *Yunnan. Exped.* p. 624; Hume, *Str. F.* viii. p. 102; Seebohm, *Cat. B. Br. Mus.* v. p. 48; Oates, *B. Br. Burm.*, i. p. 83.—BLYTH'S WILLOW-WARBLED.**

Closely allied to *Phylloscopus magnirostris*, being absolutely identical in colour and in its seasonal changes, and would scarcely be entitled to specific rank were it not that it appears to have a more eastern geographical range. It is somewhat smaller, with a more rounded wing; the 4th and 5th primaries are longest and the 2nd is equal to the 10th; 1st primary 0.7 to 0.8 inch.

*Length*.—5 inches; wing 2.4 to 2.6; tail 2.0 to 2.1; tarsus 0.75; culmen 0.45 to 0.62.

This is one of the most abundant species of the genus. It is found in the Eastern Himalayas, where it breeds, and as far west as Nepaul. It extends in winter to Assam and Lower Bengal. Jerdon records it from the Neilgherries, the Wynaad, Bengal and Sikkim. Round Pegu Oates says it is very common. Dr. Armstrong got it at Elephant Point, Mr. Davison in the northern half of the Tenasserim Division, and Dr. Anderson procured it near Bhamo. Seebohm says it straggles in the winter to the Philippine Islands.

Like the last this species is entirely arboreal in its habits, affecting the high tree tops.

*A pale mesial line on the crown.*

**289. *Phylloscopus occipitalis*, (Blyth).** *Seebohm, Cat. B. Br. Mus. v. p. 150. Phyllopneuste occipitalis, (Ferd.) fide Blyth J. A. S. B. xiv. p. 593. Reguloides occipitalis, (Ferd.) fide Ferd., B. Ind. ii. p. 196, No. 563; Brooks, Ibis, 1869, p. 457; Cock and Marsh, Str. F. 1873, p. 355; Hume, Nests and Eggs, Ind. B. p. 362. Phylloscopus occipitalis, (Ferd.) fide Seebohm, Ibis, 1877, p. 80.*—JERDON'S CROWNED WILLOW-WARBLER.

Above olive green, slightly yellower on the rump and upper tail coverts; a well-defined narrow yellowish white eye stripe from the base of the bill to the nape on each side, and a pale rather broader mesial one on the crown, the interspaces dark olive green; wing coverts olive green; the median and greater series with greyish white tips, forming two pale bars across each wing; quills brown, tipped narrowly with greyish white, externally edged with yellowish green and emarginated as far as the sixth primary; tail brown, externally edged with yellowish green, and, except the two central feathers, the inner webs have a narrow well-defined greyish white margin; under surface greyish white, very slightly suffused with yellow, greyest on the breast and flanks; axillaries, under wing coverts and thighs pale yellow; bill Acrocephaline; upper mandible dark brown; under mandible pale, slightly darker towards the tip; legs, feet and claws dark brown; 3rd, 4th and 5th primaries nearly equal and longest; 2nd intermediate between 7th and 8th; 1st primary 0.55 to 0.7.

*Length.*—4.75 to 5 inches; wing 2.65 to 2.7; culmen 0.5 to 0.6.

The summer plumage is greyer on the upper parts, the lower parts become abraded, the light tips to the quills and wing coverts also become abraded, and the yellowish green edgings greyer. The autumn plumage is rather brighter everywhere, otherwise it is similar to that of the summer.

*Hab.*—The Punjab, N. W. Provinces, Oudh and Bengal, also British Burmah (Tenasserim Province), Cashmere and Nepaul.

Jerdon's Willow-Warbler breeds in Cashmere and throughout the Himalayas generally during the latter half of May, June and the first half of July from 4,000 to 8,000 feet. The nests are placed in holes under the stump of a tree, or steep bank sides. Eggs 4 to 5 in number, pure white, 0.65 × 0.5 inch.

**290. *Phylloscopus coronatus*, (Temm.) Swinhoe, Ibis, 1863, p. 93; Seebohm, Ibis, 1877, p. 79; id. Cat. B. Br. Mus. v. p. 49; Oates, B. Br. Burm., i. p. 84. Ficedula coronata, Tem. et Schleg. Faun. Jap. Aves. p. 48, pl. xviii. Phyllopneuste coronata, David. et Oust. Ois Chine, p. 269. Reguloides coronata, Hume and Dav., Str. F. vi. p. 356; Hume, Str. F. viii. p. 102.**—TEMMINCK'S CROWNED WILLOW-WARBLER.

Upper plumage olive green, the head suffused with dusky; a yellowish white mesial line on the crown, and another on each side from the base of the bill to the nape; lores and feathers behind the eye brown; ear coverts mixed yellowish and dusky; wings and wing coverts brown, externally margined with yellowish green; the median and greater coverts tipped with yellowish, forming two wing bars; tail olive brown, externally margined with yellowish green, and, except the two centre feathers, narrowly margined on the inner webs with greyish white; under surface white suffused with yellow, the breast and flanks greyish; under wing coverts, axillaries, thighs and *under tail coverts pale yellow*. The summer plumage is duller. Upper mandible brown, lower mandible yellowish; mouth yellow; legs and feet plumbeous.

*Length*.—5·2 inches; tail 2·1; wing 2·4; tarsus 0·7; bill from gape 0·6; 1st primary 0·5 to 0·55 inch; 2nd primary longer than the 7th and shorter than the 6th.

*Hab.*—British Burmah, in the Pegu and Tenasserim Provinces; southwards down the Malay Peninsula as far as Java and Cochin-China. According to Seebohm it breeds in Japan in the valley of the Ussuri and in the sub-alpine districts of South East Persia. Its habits are not known.

**291. *Phylloscopus reguloides*, Blyth, *J. A. S. B.* xi. p. 191; xii. p. 963; Seebohm, *Cat. B. Br. Mus.* v. p. 5. *Reguloides trochiloides*, (Sund.) *Ferd. B. Ind.* ii. p. 196, No. 564; Hume, *Str. F.* iii. p. 139; Bl. and Wald. *B. Burm.* p. 105; Hume and Dav., *Str. F.* vi. p. 358; Hume, *Str. F.* viii. p. 102; Scully, *Str. F.* viii. p. 307; Brooks, *Str. F.* x. p. 169. *Reguloides viridipennis*, (Bl.) *Ferd. B. Ind.* ii. p. 198, No. 567. *Phylloscopus viridipennis*, (Bl.) Seebohm, *Ibis*, 1877, p. 82. *Phylloscopus flavolivacea*, Hume, *Str. F.* v. p. 504; Hume and Dav., *Str. F.* vi. p. 358. *Reguloides flavolivaceus*, Hume, *Str. F.* viii. p. 102; ix. p. 291.—BLYTH'S CROWNED WILLOW-WARBLER.**

An ill-defined coronal streak from the forehead to the nape, and a well-defined superciliary streak on each side pale yellowish. Upper parts olive green, slightly yellower on the rump and upper tail coverts; the interspaces on the crown dark olive; wings and wing coverts brown, edged externally with bright olive green; the median and greater coverts with yellow tips forming two conspicuous wing bars; quills brown, very narrowly tipped paler, and the outer webs margined with bright olive green; lores and feathers behind the eye brown; ear coverts mixed brown and yellowish; lower plumage greyish white, whiter on the belly, and more or less suffused with yellow; under wing coverts, axillaries and thighs bright yellow. In summer, as in all the *Phylloscopi*, the plumage is duller. Upper mandible dark brown; lower one with the gape and the edges of the upper mandible yellow; iris dark hazel; legs yellowish brown.

*Length*.—4·6 inches; wing 2·25 to 2·4 inches; tail 1·85 to 2·0; tarsus 0·7; bill from gape 0·6; 1st primary 0·6 inches in length, the 2nd about equal to the 10th; 3rd, 4th and 5th about equal and longest.

*Hab.*—The Himalayas from Nepaul eastwards, in the alpine districts of which it is supposed to breed. It winters in both the Indian and Burmah Peninsulas.

It has been recorded from the N. W. Provinces of India, also from Oudh, Bengal, British Burmah and Nepaul. Oates says it is common throughout Southern Pegu, and, quoting Davison, that it has been met with in Tenasserim. Dr. Armstrong procured it at Amherst. It is said to be common also from Cashmere eastwards, and to have occurred in China. Jerdon, under *R. trochiloides*, says he got it at Calcutta, and that Mr. Blyth has seen it from Dehra Doon, and again, under *R. viridipennis*, that he obtained it at Darjeeling. It is found on trees, searching the leaves for insects.

**292. *Phylloscopus viridipennis*, Blyth, *J. A. S. B.* xxiv. p. 275; Hume, *Str. F.* v. p. 330; Brooks and Hume, *Str. F.* ix. pp. 290, 291; Seebohm, *Cat. B. Br. Mus.* v. p. 53. *Phylloscopus presbytis*, (Mull.) Seebohm, *Ibis*, 1877, p. 883. *Reguloides viridipennis*, (Bl.) Hume, *Str. F.* viii. p. 202.—WALLACE'S CROWNED WILLOW-WARBLER.**

Similar to *Phylloscopus reguloides*, except that it is smaller and that the inner webs of the three outermost tail feathers on each side are white. The lower plumage, too, is more suffused with yellow. Bill dark brown, the lower mandible pale.

*Length*.—4·3 inches; wing 2·05 to 2·1; tail 1·7; tarsus 0·75; bill from gape 0·55; 2nd primary equal to the 10th; 1st 0·55 inch to 0·7; 4th and 5th primaries longest.

*Hab.*—British Burmah and southwards down the Malay Peninsula. Seebohm says it breeds in the mountains of British Burmah and winters in the plains, ranging also as far as Timor and probably also Sumatra. Mr. Davison procured it on the Mooleyit Mountain in Tenasserim, and he also found a nest in February. It was a globular structure, made of moss mingled with dry leaves and fibres, and lined with vegetable down. The nest was placed in a mass of creepers on the face of a rock, and contained 3 pure white eggs.

*No bar across the wings; bill slender, depressed at base.*

**293. *Phylloscopus tristis*, Blyth, *J. A. S. B.* xii. p. 966; xiv. p. 59; *Jerd. B. Ind.* ii. p. 190, No. 554; Dresser, *B. Eur.* pt. lxvi. 1875; *Blf. East. Pers.* ii. p. 180; Scully, *Str. F.* iv. p. 148; Seebohm, *Ibis*, 1877, p. 97; 1879, p. 10; *id. Cat. B. Br. Mus.* v. 63; Murray, *Hdbk. Zool. &c., Sind*, p. 161. *Phyllopneuste tristis*, (Blyth) Gould, *B. Asia*, pt. xvii. *Phylloscopus brehmi*, Homeyer, *apud. Blf. East Persia*, ii. p. 182.—THE SIBERIAN WILLOW-WARBLER.**

Above dull earthy brown, with an olive green tinge on the lower back and rump; lores and behind the eye and ear coverts like the back; supercilium pale buffy white; wings brown, their coverts with pale margins, and the primaries and secondaries edged on their outer webs with greenish; edge of wing and under wing coverts yellow; tail brown, the feathers edged on their outer webs with yellowish green; the inner web faintly and narrowly margined with whitish; under surface albescent; bill dark brown; legs black; irides brown.

*Length*.—5 inches; wing 2·5; tail 2 to 2·3; culmen 0·45 to 0·48.

*Hab*.—Sind, Punjab, N. W. Provinces, Oudh, Bengal, Beloochistan, S. E. Persia, Afghanistan, and East Turkistan; Deccan, Kutch, Kattiawar, Jeypore, Jodhpore, and North Guzerat. In Sind, as in other parts of India, it is a winter visitor. According to Seeböhm "The Siberian or Brown Tree Warbler breeds in the valleys of Petchora, the Obb and the Yennessee, extending northwards beyond the limits of forest-growth, and southwards as far as Perm in the west and Yennasaïsk in the east. It passes across the Khirgiz steppes and Turkestan on migration, and winters in Beloochistan and the plains of India. It also breeds abundantly at Cashmere and in the mountains near Lake Baical."

**294. *Phylloscopus affinis*, (Tick.) Bly.** *J. A. S. B.* xvi. p. 442; *Jerd. B. Ind.* ii. p. 194, No. 561; *Blanford. J. A. S. B.* xli. pt. 2, p. 81; *Brooks, Ibis*, 1872, p. 31; *Godw.-Austen, J. A. S. B.* xlv. pt. 2, p. 80; *Hume and Dav., Str. F.* vi. p. 356; *Seeböhm, Ibis*, 1877, p. 100; *id. Cat. B. Br. Mus.* v. p. 65. *Motacilla affinis*, *Tick.*, *J. A. S. B.* ii. p. 576.—TICKELL'S WILLOW-WARBLER.

Upper parts olive brown, very slightly darker on the head; superciliary stripe deep yellow; wing and tail feathers brown, externally washed with olive brown, the former emarginated as far as the 6th quill; *under surface deep yellow*, shading into buffish yellow on the breast and flanks; axillaries and under wing coverts deep yellow. Bill Phylloscopine; upper mandible dark brown, lower pale brown; legs and feet brown; 3rd, 4th and 6th primaries longest, 2nd equal to the 9th or 10th; 1st primary about half the length of the second (0·7 to 0·8 inch).

*Length*.—4·5 inches; wing 2·2 to 2·4; tail 1·95 to 2·23; bill 0·46; tarsus 0·7.

*Hab*.—The Himalayas, from Cashmere to Sikkim and British Burmah. It is recorded from the N. W. Provinces, Bengal, South India, British Burmah and Nepal. Jerdon says it is spread over all India; but this is not accurate, being absent from the Concan and Deccan and the drier parts of the Peninsula. He adds that a specimen was procured at Sikkim.

Tickell's Willow-Warbler is said to breed in the Himalayas from Cashmere to Burmah.



**295. *Phylloscopus tytleri*, Brooks, *Ibis*, 1872, p. 237; Hume, *Nests and Eggs*, Ind. B. p. 362; id. *Str. F.* iii. p. 279; Seebohm, *Ibis*, 1877, p. 101; id. *Cat. B. Br. Mus.* v. p. 66.—TYTLER'S WILLOW-WARBLER.**

Above olive brown, shading into greenish olive on the rump; superciliary stripe narrow, greyish white, not extending quite to the nape; quills and tail feathers brown, externally margined with greenish olive; under surface yellowish white, greyish on the breast and flanks; axillaries and under wing coverts yellow; bill *very long and slender*, dark brown, paler on the under mandible; legs dark brown; 3rd, 4th and 5th primaries longest; second intermediate between 8th and 9th; 1st less than half the length of the 2nd; 0.55 to 0.68.

*Length*.—4.5 to 4.7 inches; wing 2.35 to 2.43 inches; tail 1.7 to 1.9; culmen 0.5.

*Hab.*—South India (?) Nepaul. It breeds in Cashmere and winters in India. The nest is deep and solidly built, composed of grass, fibres, moss, and lichen, thickly lined with hair and feathers; eggs 4, pure white, 0.58 × 0.45.

*Two bars across the wings; upper mandible dark; generally a pale mesial line on the crown.*

**296. *Phylloscopus humii*, Brooks, *Str. F.* vii. p. 131; Seebohm, *Cat. B. Br. Mus.* v. p. 67; Abrornis tenuiceps, *Hodgs. MSS. B. of Nepaul*. *Reguloides superciliosus* (Gmel.), Brooks, *Ibis*, 1869, p. 236; id. *Ibis*, 1872, p. 24.—HUME'S BARRED WILLOW-WARBLER.**

Above olive, browner on the head and greener on the rump; a well defined buff eye stripe extends from the base of the bill to the nape; sometimes (rarely) slight traces of a mesial line are visible; lores and the space behind the eye brownish olive; wing coverts brown, the lesser wing coverts with broad olive green margins; the median wing coverts with obscure pale tips and the greater series with broad well defined buffish yellow tips forming a conspicuous pale bar across each wing; quills brown; all the secondaries and four or five of the primaries narrowly tipped with greyish white; outside webs of the quills edged with yellowish green and emarginated as far as the sixth; tail feathers the same, but the inner webs with a narrow greyish white margin; under parts greenish yellow, nearly white on the throat and shading into buff on the flanks; inner margin of quills nearly white. Bill dark brown, under mandible paler at base; legs and feet dark brown; 4th primary slightly the longest; second intermediate between 8th and 9th, occasionally between the 7th and 8th, or 9th and 10th; 1st primary 0.45 to 0.55 inch.

*Length*.—2.38 to 2.45 inches; wing 2.01 to 2.3; tail 1.5 to 1.8; culmen 0.4 to 0.45.

*Hab.*—Afghanistan, Punjab, N. W. Provinces, Oudh, Bengal, Rajputana, Central India and the Central Provinces to Nepaul and Cashmere, and probably also British Burmah.

Wherever Hume's Barred Willow-Warbler occurs it is fairly numerous, affecting both high trees and shrubby jungles. It breeds in Cashmere at 8,000 feet. The nest is globular, composed of coarse grass, and placed on the side of a bank: it is usually lined with hair. Eggs, 4 or 5 in number, 0.56 x 0.44, white, and profusely spotted with red.

**297. *Phylloscopus superciliosus*, (Gmel.) Seebohm, Cat. B. Br.** *Mus.* v. p. 68; *Dresser, B. Eur.* pt. xxx. 1874; *Seebohm. Ibis*, 1877, *Motacilla superciliosus*, *Gmel. Syst. Nat.* i. p. 975; *Oates, B. Br. Burm.* i. p. 87. *Reguloides superciliosus*, *Bl. B. Burm.* p. 106; *Armstrong, Str. F.* iv. p. 329; *Hume and Dav., Str. F.* vi. p. 358; *Brooks, Str. F.* vii. pp. 128, 236, 475; *Hume, Str. F.* viii. p. 102; *Brooks, Str. F.* viii. p. 393. *Reguloides proregulus*, (*Pall.*) *Ferd. B. Ind.* ii. p. 197, No. 566.—The YELLOW-BROWED BARRED WILLOW-WARBLER.

Upper plumage olive green, yellower on the rump and upper tail coverts; a well defined supercilium reaching to the nape pale yellow; an indistinct pale yellow coronal streak also present and reaching to the nape; crown of the head slightly darker than the back, also the space before and behind the eye; wings and wing coverts dark brown, edged with yellowish green, the median and greater wing coverts tipped with yellow, forming wing bars; quills tipped with whitish; tail brown, edged with yellowish green on the outer webs and margined with greyish white on the inner; under surface white, suffused with yellowish green; axillaries yellow; under wing coverts and thighs greyish yellow; bill slender, dark brown, paler at base of lower mandible; legs, feet and iris brown; 3rd, 4th and 5th primaries longest; second primary intermediate in length between 7th and 8th; 1st primary 0.5 to 0.55 inches.

*Length*.—4 inches; wing 2.1 to 2.35; tail 1.7 to 1.8; culmen 0.4.

*Hab.*—The Punjab, N. W. Provinces, Oudh, Central India, Assam, Bengal, British Burmah and Sikkim.

According to Jerdon the Yellow-browed or, as he calls it, the "Crowned Tree Warbler" is common in most parts of India during the cold weather and at all times on the Himalayas. He got it at Nellore on the Malabar Coast, in Central India, and at Darjeeling. Oates says it is one of the commonest birds in Burmah during winter. It is found abundantly in every portion of Pegu. Blyth records it from Arrakan. Davison found it in Tenasserim as far south as Mergui, and Captain Bingham observed it in the Thoungyeen Valley. In the Karin Hills it has been procured up to altitudes of 2,500 feet. It is found throughout the Indo-Burmese countries, also in Sikkim and Assam. According to Blyth it is a solitary bird. It is a cheerful and active bird, frequenting alike large trees and low hedges in pursuit of its insect food. Mr. Seebohm says it breeds in North Siberia and at a high elevation in the mountains of South Siberia. The nest he found was composed of dry grass

and moss, and lined with reindeer hair. The structure is semi-domed and built usually in a small tuft of grass, moss, and bilberries. The nest contained six white eggs, spotted with reddish.

**298. *Phylloscopus maculipennis*, (Blyth) Seebohm, Cat. B. Br. Mus. v. p. 70; id. Ibis, 1877, p. 107.** *Abornis chloronotus*, *Hodgs. MS. Drawings B. Nepaul; Hume, Nests and Eggs, Ind. B. p. 372.*—HODGSON'S BARRED WILLOW-WARBLER.

Upper parts yellowish green, the rump with a broad yellow band. Head, nape, hindneck, lores and space behind the eye dark olive brown; mesial line on crown and eye stripe pale buff; wing coverts and quills brown, margined with yellowish green; the median and greater coverts tipped with yellow and forming two bars across the wing; innermost secondaries tipped with white on the outer web; tail brown, externally edged with yellowish green; 2 to 3 outermost feathers on each side white, the basal third of the outer web yellow and the terminal third of the same brown; under surface greyish white; the axillaries and under wing coverts, also the middle of the abdomen, greyish yellow; legs and claws brown; 1st primary half the length of 2nd; 2nd equal to 10th; 4th and 5th longest.

*Length.*—3·3 inches; wing 1·8 to 2·0; tail 1·3 to 1·6; culmen 0·35 to 0·4.

*Hab.*—The Himalayas from Nepaul to Sikkim. Breeds probably in the pine districts.

**299. *Phylloscopus proregulus*, (Pall.) Seebohm, Ibis, 1877, pp. 104, 162; id. Cat. B. Br. Mus. v. p. 72.** *Motacilla proregulus*, *Pall. Zool. Rosso. As. i. p. 499.* *Abornis chloronopus*, *Hodgs. Gray, Zool. Misc. p. 82.* *Reguloides chloronotus* (*Hodgs.*) *Ferd. B. Ind. ii. p. 197, No. 566.* *Reguloides proregulus* (*Pall.*) *Seebohm, Ibis, 1863, p. 307 et sub-seq.; Blanford, J. A. S. B. xli. pt. 2, p. 53; Hume, Nests and Eggs, Ind. B. p. 368; id. Str. F. vi. p. 368; Hume and Dav., Str. F. viii. p. 102; Scully, Str. F. viii. p. 309; Brooks, Str. F. viii. p. 392.*—PALLAS'S BARRED WILLOW-WARBLER.

Upper parts dark green, the head slightly darker; coronal stripe and supercilia pale yellow; rump yellowish green to bright yellow; wings and wing coverts brown, the outer webs of all margined with greenish yellow, and the median and greater coverts broadly tipped with pale yellow forming two wing bars; quills margined with greyish white on their inner web; tail olive brown, edged with greenish yellow externally; the inner webs and shafts of the three outermost feathers on each side pure white, and the outer webs of these yellowish white tinged with greenish basally and brown terminally; under surface dull greenish yellow, brighter on the middle of the abdomen; axillaries, under wing and tail coverts and thighs yellow; legs light brown; bill dark brown; the lower mandible dusky; irides dark brown.

*Length.*—3·5 inches; wing 1·95 to 2·05; tail 1·4 to 1·6; tarsus 0·7; culmen 0·3 to 0·4.

The female is smaller. In the summer plumage the coronal and superciliary stripes, also the yellow tips to the coverts, are pale by abrasion.

*Hab.*—The Himalayas, Cashmere, Nepaul, N. W. Provinces, Bengal and British Burmah during winter.

Pallas's Willow-Warbler was got in Tenasserim by Mr. Davison in the pine forests of the Salween near Pahpoon. Captain Cock found its nest in Cashmere in May and June. The nest is placed high up on the bough of a tree (pine). It is domed or roofed, and made of moss with a lining of feathers. The eggs appear to be usually 5 in number, are white, and richly marked with brownish red, particularly at the larger end, where they form a zone. Size 0.54 × 0.43.

**300. *Phylloscopus pulcher*, (Hodgs.) Seebohm, Cat. B. Br. Mus.** v. p. 73. *Abrornis erochroa*, (Hodgs.) *Gray's Misc.* p. 82. *Reguloides erochroa* (Hodgs.) *Ferd. B. Ind.* ii. p. 199, No. 568; *Wald. in Bl. B. Burm.* p. 106; *Hume and Dav.* vi. p. 358; *Hume, Str. F.* viii. p. 102; *Brooks, Str. F.* viii. pp. 392, 482; *Scully, Str. F.* viii p. 309. *Phylloscopus crochrous*, *Seebohm, Ibis*, 1877, p. 106. The ORANGE-BARRED WILLOW-WARBLER.

Upper parts dark green; rump with a yellowish green terminal band covering the upper tail coverts; superciliary stripe and coronal streak not well defined, the latter nearly obsolete; the interspaces on the crown dark olive green, also the lores and space behind the eye to the nape; wing coverts brown, the lesser series with broad green margins, the median with green tips, and the greater series with broad well-defined orange tips forming a conspicuous lower wing-bar; quills brown, margined externally with greenish, fading into yellowish white, and becoming broad and conspicuous on the terminal portion of the innermost secondaries; tail with the central feathers brown, edged externally with greenish; the inner webs and shafts of the three outermost feathers on each side pure white, the outer webs of the same greenish yellow on the basal half and terminated with brown; under surface of body dull greenish yellow, brighter on the middle of the abdomen; legs, bill and irides dark brown; 4th, 5th and 6th primaries longest; 2nd about equal to the 10th; the 1st, or exposed portion of bastard primary 0.55 to 0.65 inch.

*Length.*—4.2 inches; wing 2.4; tail 1.75, tarsus 0.8; culmen 0.5; from gape 0.8.

*Hab.*—The Himalayas, from Nepaul and Simla to Bhootan. Recorded from the N. W. Provinces of India, Darjeeling, Sikkim and Simla, also Burmah; in the latter a winter visitor. It has been found on the Mooleyit Mountains in Tenasserim and at Karin at 3,000 feet elevation. It is said to breed in the pine regions of the Himalayas, in Nepaul and Sikkim, coming down into the valleys during winter, but rarely, or never, descending into the plains of India. Brooks says its note is a Thrush-like *zip*, and Dr. Scully that in Nepaul it is always found hunting about in the bushes at from 6,000 to 7,500 feet elevation.

**301. *Phylloscopus subviridis*, Brooks, Proc. As. Socy. Bengal, 1872, p. 140; *Alcock, Cat. B. Br. Mus.* v. p. 74; vii. 417.—BROOK'S BARRED WILLOW-WARBLED.**

#### PLATE.

Upper parts olive green, shading into light yellowish green on the rump; coronal and superciliary streaks *ill* defined; lores, behind the eye and interspaces on the crown olive; wings and wing coverts brown, margined with olive green; the median coverts with slightly paler tips, and the greater series with broad well defined pale tips forming a conspicuous dirty yellowish white bar across the wing; tail brown, margined externally with yellowish green; under surface of body nearly uniform greenish yellow; legs, feet, claws and irides brown; 4th primary slightly the longest; 2nd generally intermediate between 8th and 9th, 7th and 8th, or 9th and 10th.

*Length*.—3·6 inches; wing 2·3, tail 1·9; culmen 6·45.

*Hab*.—Punjab, N. W. Provinces, Oudh and Nepaul. Has been recorded from Moorshedabad, Etawah, Cawnpore, and N. W. Himalayas. Breeds in the highlands of N. W. Cashmere.

**302. *Phylloscopus sindianus*, Brooks, Str. F. viii. p. 476; Murray, Vert. Zool., Sind, p. 160.—THE SIND BARRED WILLOW-WARBLED.**

"Above uniform dull brown, rather lighter than in *P. tristis*, and much the colour of the upper surface of *Hypolais rama*; below albescent, with a ruddy tinge on the pale supercilia, sides of face, neck, breast and flanks; axillaries and edge of wing yellowish white, sometimes almost quite white, and not pure sulphur yellow as in *P. tristis*; no greenish on bend or shoulder of wing, nor any green edging to the primaries, secondaries and tail feathers generally observable in *P. tristis*; no greenish tinge on rump; like *P. neglectus* and *H. rama*, the uniform light greyish brown upper surface is characteristic; bill *Phylloscopine*, like *tristis*, dark brown; the base of lower mandible yellowish."

*Male, length*.—4·40 to 4·70; wing 2·22 to 2·4; tail 1·85 to 2·05; bill at front '3 to '35.

*Female, length*.—4·20 to 4·45; wing 2·05 to 2·15; tail 1·75 to 1·9.

*Hab*.—Sukkur, Sind.

#### Gen. *Hypolais*.—*Brehm*.

Bill slender, wide basally; rictal bristles few; wings moderate axillaries buff, white or grey; greater wing coverts without pale tips; bastard primary extending beyond or shorter than the primary coverts or considerably less than half the length of the second; 3rd and 4th quills longest; tail even or rounded; no white on outermost feather; tarsus scutellated in front.

AVIFAUNA OF BRITISH INDIA.



*Phylloscopus subviridis.*

~~*Phylloscopus humit.*~~



**303. *Hypolais pallida*,** *Hemp. et Ehr. Symb. Phys. Aves.* fol. b. b. *Hypolais pallida* (*Ehr.*) *Dubois, Ois. Eur.* pl. 71.; *Dresser, B. Eur.* pt. xxxi.; *Blf. East. Pers.* ii. p. 187; *Hume, Str. F.* vol. vii. pp. 398, 504; *Murray, Zool., &c., Sind,* p. 160; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 82; *Murray, Vert. Zool., Sind,* p. 156. *Hypolais elæica*, (*Lindern*) *Gerbe, Rev. Zool.*, 1844, p. 440; *Heugl. Orn. N. O. Afr.* i. p. 297; *Blanf. Geol. and Zool., Abyssinia,* p. 380; *Sharpe, Cat. Afr. B.* p. 33; *Shelly, B. Egypt,* p. 100.—The OLIVACEOUS TREE-WARBLER.

*Adult Male*.—Upper parts pale dull olive brown, clearer on the back in colour, and rather lighter on the rump; from the base of the bill over the eye a rather indistinct yellowish stripe; wings dark brown; the inner secondaries lighter in colour, all the feathers having lighter margins; tail dark brown, very narrowly edged with lighter brown; under parts buffy white; the throat and centre of the abdomen almost pure white; flanks washed with pale brownish; bill horn brown, dull yellowish at the base of the lower mandible; legs pale horn brown; iris dark brown.

*Length*.—About 5 inches; culmen 0·62; wing 2·63; the first primary extending 0·27 beyond the wing coverts and 1·15 shorter than the 2nd; 2nd 0·2 shorter than the 3rd; 3rd and 4th equal; tail 2·2; tarsus 0·83.—(*Dresser, Birds Europe*) *ex. S. F.* vol. vii. p. 398.

*Hab*.—Europe, Africa, Greece, Constantinople, Palestine, Egypt, Sind, Beloochistan, Persia, S. Afghanistan, Turkestan. This species and the next two (*caligata* and *rama*) are winter visitants in Sind and affect the same situations. All appear to be varieties of *Hypolais languida*, a species found in S. E. Persia, at Quetta in Beloochistan (Chaman). S. Afghanistan, and probably also in Sind. Mr. Seebohm, grouping *H. opaca*, *pallida*, *rama*, *caligata* and *obsoleta*, says that an unbroken series may be found from the largest *opaca* from Spain, through the smaller *H. pallida* from Greece and Asia Minor, and the still smaller *H. pallida* and *H. rama* from Persia down to the small skins of *H. rama* from India, and the still smaller *H. caligata* from Turkestan and India. Skins from Sind of these three last do not appear to have been in the British Museum collection. In reference to *H. pallida*, comparing Indian skins, Mr. Hume observes (*Str. F.* vol. vii. pp. 396, 398) that it is very close to *rama*, but is somewhat larger, with a longer and decidedly larger bill; and that the two forms, *rama* and *pallida*, quite run into each other, many of the Sind and Beloochistan specimens being quite intermediate. There does not appear to be any very appreciable difference in colour in the series I possess of these species from Sind, Beloochistan, Afghanistan and the Deccan, except the seasonal abrasion of feathers; this is also remarked by Mr. Seebohm. *H. languida*, he says, has apparently only just succeeded in isolating itself, and adds that he is not sure whether in a large series of the species intermediate forms might not occur between it and *H. pallida*. I



extract the following key to the species from Mr. Seebohm's *Cat. B. Br. Mus.* vol. v. p. 76.

(Subgeneric Group—*Idana*.)

- A. General colour of the upper parts brown or grey; under parts white or pale brown; outside tail feathers 0·15 to 0·2 inch shorter than the longest.

(a) 2nd primary intermediate between the 5th and 6th, bastard primary falling short of the primary coverts by 0·1 inch, or extending 0·05 beyond them. Length of wing 3·05 to 2·8 inches.....*H. languida*.

- B. Bastard primary exceeding the primary coverts by at least 0·1 inch.

(a) General colour of the upper parts pale sandy brown or isabelline brown.....*H. obsoleta*.

- C. General colour of the upper parts darkish rufous brown or grey.

(a) 2nd primary generally intermediate between the 5th and 6th; bastard primary exceeding the primary coverts from 0·1 to 0·3 inches. Length of wing 2·75 to 2·5 inches; culmen 0·7 to 0·6.....*H. pallida*.

(b) 2nd primary generally intermediate between the 7th and 8th, or 8th and 9th; bastard primary exceeding the primary coverts from 0·2 to 0·4 inch. Length of wing 2·53 to 2·3 inches; culmen 0·6 to 0·53.....*H. rama*.

(c) 2nd primary generally intermediate between 6th and 7th; bastard primary exceeding the primary coverts 0·15 to 0·26. Length of wing 2·38 to 2·28 inches; culmen 0·51 to 0·5.....*H. caligata*.

**304. *Hypolais rama*, Sykes P. Z. S. 1832, p. 89; Blf. East. Pers. ii. p. 187; Hume, Str. F. vol. vii. 183, 396; Murray, Hdbk. Zool., &c., Sind, p. 160; Seebohm, Cat. B. Br. Mus. vol. v. p. 84. Phyllopneuste rama, (Sykes) Ferd. B. Ind. ii. p. 189, No. 553; Murray, Vert. Zool., Sind, p. 157.—SYKES' TREE-WARBLER.**

Seebohm (*Cat. B. Br. Mus.*) describes this as "a shade darker in colour, both above and below, than typical, *H. pallida*. It is on an average a somewhat smaller bird, with a shorter second primary and a longer bastard primary. The 3rd, 4th and 5th primaries are nearly equal and longest; the second is usually intermediate in length between the 7th and 8th, and not infrequently between the 8th and 9th, and in rare instances between the 6th and 7th. The bastard primary exceeds the primary coverts by 0·2 to 0·4 inch."

*Length*.—Of wing 2·53 to 2·3 inches; tail 2·25 to 1·9; culmen 0·6 to 0·53; tarsus 0·85 to 0·8; outside tail feathers 0·25 to 0·15 inch shorter than longest. After the autumn moult the under parts are somewhat more suffused with pale

buffish brown than appears to be the case after the spring moult ; otherwise, I can discover no differences attributable to age, sex, or season, beyond the usual wear and tear of abrasion.

*Hab.*—Sind, Beloochistan, S. E. Persia, Afghanistan, East Turkestan, Punjab, N. W. Provinces, Oudh, Cashmere, Kutch, Kattiawar, N. Guzerat, Jodhpore, Concan, Deccan and South India.

**305. *Hypolais caligata*, (Licht.)** *Everm. Reis. Buchara*, p. 128 ; *Degle et Gerbe. Orn. Eur.* i. p. 510 ; *Dresser, B. Eur.* pt. xxxviii. 1875 ; *Dresser, Ibis*, 1876, p. 88 ; *Murray, Hdbk. Zool., &c., Sind*, p. 160 ; *Seeböhm, Cat. B. Br. Mus.* vol. v. p. 86. *Phyllopneuste rama*, (Sykes) *apud. Jerd. B. Ind.* vol. ii. p. 189 (*partim*). *Jerdonia agricolensis*, *Hume, Ibis*, 1870, p. 182. *Calamodyta agricolensis* (*Hume*) *Tristram, Ibis*, 1870, p. 494. *Salicaria microptera*, *Severtz., Str. F.* iii. p. 425 ; *id.* vii. p. 397 ; *Murray, Vert. Zool., Sind*, p. 158.—THE BOOTED TREE-WARBLER.

*Male.*—Head, hindneck, back, scapulars, ear coverts and sides of the neck a greyish brown ; supercilium, extending from the base of the bill to the ear coverts, whitish buff ; rump and upper tail coverts brownish, the feathers of the rump tinged very slightly with a shade of rufescent ; wings concolorous with the tail ; their coverts, as well as the primaries, secondaries and tertiaries, margined with rufescent brown, in some specimens greyish white, more broadly on the tertiaries and wing coverts ; edge of wing and under wing and thigh coverts pale buffish white ; tail brown, the feathers narrowly margined with fulvescent in some specimens ; the outer web of the outermost feather on each side indistinctly fulvous white, the others, except the centre feathers, tipped greyish white or fulvous ; under surface pale buffy white, albescent on the chin, belly and lower tail coverts, and tinged brownish on the flanks ; bill dark brown ; the lower mandible pale fleshy, dusky near the tip ; legs and feet fleshy or pale brownish yellow ; irides brown.

*Length.*—4·5 to 5 inches ; wing 2·2 to 2·38 ; tail from vent 1·95 to 2 ; bill at front 0·35 ; tarsus 0·8.

*Hab.*—India to Nepaul and Cashmere, Sind, Punjab, N. W. Provinces, Deccan, Concan, Khondesh, Behar and Madras ; wintering in the plains of India and breeding in Cashmere, Turkestan and Southern Siberia.

**306. *Hypolais obsoleta*, (Severtz.)** *Seeböhm, Cat. B. Br. Mus.* vol. v. p. 86. *Salicaria obsoleta*, *Severtz. Turkest. Fevotn.* pp. 66, 129 ; *Dresser, Ibis*, 1876, p. 87 ; *Murray, Vert. Zool., Sind*, p. 158.—THE DESERT TREE-WARBLER.

The following is Mr. Seeböhm's description of this species : " The general colour of the upper parts is a sandy brown or pale isabelline brown. In other respects the colouration is the same as that of the two or three preceding subspecies ; 3rd and 4th primaries nearly equal and longest ; 2nd primary in a skin

from Turkestan intermediate in length between the 6th and 7th, and in one from Sind between the 7th and 8th; the bastard primary exceeds the primary coverts by 0·35 inch in both skins.

*Length*.—Of wing 2·4 inches; tail 2·0; culmen in the Turkestan skin 0·51; in the Sind skin 0·8, darkish brown." The colour of the soft parts are not given. This has been included on Mr. Seebohm's authority, who says he has a skin from Sind as well as from Turkestan. Comparing my small series, I cannot find any to agree with the colouration as above.

*Hab.*—Turkestan; wintering in Sind.

### Gen. *Acrocephalus*.—*Naum.*

Bill large, depressed and broad at the base, with moderately developed rectal bristles in two species only; the bill is as slender as in *Locustella*; wings moderately long; 3rd and 4th quills generally longest; bastard primary minute in one or two species only, extending in length beyond the primary coverts; tail more rounded than in *Hypolais*.

**307. *Acrocephalus bistrigiceps***, *Swinh. Ibis*, 1860, p. 51; *Wald*, in *Bl. B. Burm.* p. 104; *Hume and Dav.*, *Str. F.* vi. p. 338; *Hume*, *Str. F.* viii. p. 100; *Seebohm*, *Cat. B. Br. Mus.* v. p. 94; *Oates*, *Str. F.* x. p. 214; *Oates*, *B. Br. Burm.* i. p. 97; *Salicaria maackii*, *Schrenck*, *Vog. Amurland*, p. 370.—SCHRENCK'S REED-WARBLER.

Upper parts russet-brown, slightly brighter on the rump and upper tail coverts, and greyer on the head, quills and tail feathers; a distinct black streak on either side of the crown of the head, below which is a broad supercilium running from the base of the bill; lores dark brown; ear coverts hair brown; breast and flanks pale rufous brown, shading into pale buff on the middle of the abdomen and into white on the chin and throat; wings and tail brown, edged with russet brown on the outer webs; axillaries, thighs, under wing coverts and the inner edgings of the quills pale brownish buff; bill slender, locustelline; upper mandible dark, lower mandible pale; legs, feet and claws horn-colour; iris brown; mouth pale yellow.

*Length*.—5 to 5·1 inches; wing 2·1 to 2·2; tail 1·85 to 2·1; culmen 0·52 to 0·67; from gape 0·7; tarsus 0·8; 2nd primary shorter than the 6th, generally intermediate between the 6th and 7th, or equals the 7th; the first primary is 0·5 inch, or exceeds the primary coverts by 0·15 to 0·25 inch.

*Hab.*—The Amoor Valley, where it breeds; also Japan, China, and Tenasserim.

Schrenck's Reed-Warbler, Oates says, occurs commonly in the neighbourhood of Kyeikpadein in Pegu. Mr. Davison procured it at Tavoy in Tenasserim. It occurs in China. Mr. Swinhoe met with it in Amoy and Peking. It affects inundated rice and paddy fields, grass jungles, and low brushwood.

**308. *Acrocephalus orientalis*, Tem. et. Schleg. Faun. Jap.**  
*Aves.* p. 50, pl. xx. *B.*; *Seebohm, Cat. B. Br. Mus.* v. p. 97; *Oates, Str. F.*  
 iii. p. 337; *Hume and Dav., Str. F.* vi. p. 338; *Hume, Str. F.* viii. p. 100;  
*Oates, Str. F.* x. p. 213. *Acrocephalus magnirostris*, *Swinh., Ibis*, 1860,  
 p. 51.—The EASTERN GREAT REED-WARBLER.

Upper plumage olive brown, tinged with fulvous, especially on the rump and upper tail coverts; wings and tail brown edged on the outer web with fulvous brown; lores darker; a pale indistinct supercilium buffish white; ear coverts and sides of the neck like the back; chin and throat white, rest of under plumage fulvous, paler on the abdomen; throat and breast generally streaked with brown; bill dark brown, the lower mandible dusky or pale flesh colour; *legs and feet slaty*; *2nd primary between 3rd and 5th generally equaling the 4th*; the first is minute; irides yellowish brown; eyelids plumbeous.

*Length.*—7·7 inches; wing 3·0 to 3·5; tail 3; tarsus 1·15; culmen 0·8 to 0·95; from gape 1·0.

*Hab.*—The valley of the Amoor, North China and Japan, passing through South China on migration, and wintering in the islands of the Malay Archipelago and the Burmah Peninsula.

This species occurs in the grassy plains of Southern Pegu during winter, also in Tenasserim, at Tavoy and Malewoon. It has a very wide range, being found in the Malay Peninsula and Philippine Islands; also in Batchian, Morty and Lombock. It frequents large grassy tracts, bamboo thickets, and bushy jungles.

**309. *Acrocephalus stentoreus*, Hemph. et Ehr. Symb. Phys.**  
*Aves.* fol. b,b; *Heugl. Orn. N. Afr.* i. p. 287; *Shelley, B. Egypt*, p. 95;  
*Blf. East Persia*, ii. p. 194. *Agrobates brunnescens*, *Jerd. Madr. Journ.*  
 x. p. 269. *Acrocephalus brunnescens*, (*Jerd.*) *Blyth, Cat. B. Mus. As. Soc.*  
 p. 181; *Jerd. B. Ind.* ii. p. 154, No. 515; *Hume and Henderson, Lahore to Yarkand*, p. 214, pl. xvi.; *Murray, Hdbk. Zool., &c., Sind*, p. 152; *Str. F.*  
 vol. ii. 330; iii. 369.—The INDIAN GREAT REED-WARBLER.

Above light olive brown, with a very slight ferruginous tinge, paler on the rump; wings and tail dark brown; the quills and lateral tail feathers pale edged; supercilium buffy white; chin white; throat greyish white, as also is the breast, but with a fulvous tinge; rest of under surface yellowish or fulvous white; bill dark brown, fleshy at base of lower mandible; irides yellowish; legs slaty brown.

*Length.*—7·5 to 8·5 inches; wing 3 to 3·35; tail 3; tarsus 1 to 1·1.

*Hab.*—India generally, extending to Nepaul. Appears to be a resident in Egypt; breeds in Turkestan and the highlands of Persia, also in Cashmere and Nepaul. (*Seebohm.*) In Sind it breeds in August. Probably also a resident of Beloochistan and Afghanistan, where it occurs in some numbers. Recorded from Rajputana, North Guzerat and Kutch.

**310. *Acrocephalus dumetorum*, Blyth, J. A. S. B. xviii. p. 815; *Ferd. B. Ind.* ii. p. 155, No. 516; *Dresser, B. Eur.* pt. liii.; *Seebohm, Cat. B. Br. Mus.* v. p. 96. *Calamodyta dumetorum* (Blyth), *Gray. Handlist, B.* p. 207. *Salicaria eurhyncha*, *Severtz. Turkest. Jevotn.* pp. 66, 128; *id. Str. F.* 1875, p. 425.—BLYTH'S REED-WARBLER.**

Upper parts olive brown; supercilium very pale, nearly obsolete; wings and tail slightly darker brown, narrowly edged paler on the outer webs; beneath brownish buff, paler on the chin and throat; under wing coverts buffy white; bill dusky, fleshy at base of lower mandible; legs pale horn brown; irides yellowish.

*Length*.—6 inches; wing 2·5; tail 2·3; bill 0·7.

*Hab.*—Europe, breeds in the Himalayas, and winters in Sind, Punjab, N. W. Provinces, Deccan, Travancore, Ceylon, Neilgherries, the Carnatic, Central India, Bengal to Assam, and Nepaul.

**311. *Acrocephalus agricola*, *Ferd., Madras Journ.* xiii. pt. ii. p. 131; *Blyth, Cat. B. Mus. As. Soc.* p. 182; *Ferd. B. Ind.* p. 156, No. 517; *Murray, Hdbk. Zool., &c., Sind*, 153; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 105; *Dresser, B. Eur.* pt. liii. *Salicaria capistrata*, *modesta et gracilis*, *Severtz. Str. F.* 1875, pp. 425, 426.—THE PADDY-FIELD WARBLER.**

Above from pale rufous brown to earthy brown; supercilium faint, nearly obsolete; wings, wing coverts and tail feathers slightly darker, the feathers edged rufescent or earthy brown; beneath whitish with a fulvous tinge; bill brown, fleshy at the base of the lower mandible; legs horn brown; irides yellowish.

*Length*.—5·25 to 5·5 inches; wings 2·25; tail 2·25; bill at front 0·55.

*Hab.*—According to Seebohm, this little Warbler breeds in the valley of the Lower Volga and extends its range eastward in the Palæarctic region, at least as far Turkestan, and probably to China. It also breeds in the Himalayas from Cashmere to Nepaul, and winters in the plains of India. Occurs as a migrant in Southern India, Sind, Deccan, Punjab, Beloochistan and Afghanistan.

### Gen. *Locustella*.—*Kaup*.

Bill of moderate length, slender, straight, compressed, barely deflected at the tip, which is slightly notched; rictal bristles nearly obsolete; wings long; the 1st quill minute, rarely extending beyond the primary coverts; 2nd nearly equal to the third, which is longest; tail of 12 feathers rounded, the outermost feather, except in one species, shorter than the under tail coverts; tarsus scutellated in front; hind claw curved; plumage lark-like, striped or spotted.

**312. *Locustella certhiola*, (Pall.) Seebohm; Cat. B. Br. Mus.** v. p. 114; *Hume, Str. F.* viii. p. 100; *Oates, B. Br. Burm.* i. p. 102. *Motacilla certhiola*, *Pall. Zoogr., Rosso-Asiat.* i. p. 509. *Locustella rubescens*, *Blyth, J. A. S. B.* xiv. p. 582; *Ferd. B. Ind.* iii. p. 160. *Locustella temporalis*, *Ferd. B. Ind.* ii. p. 160. *Calamodyta doriæ*, *Salv. Atti. R. Ac. Sc. Tor.* iii. p. 531; *Sharpe, Ibis*, 1876, p. 41, pl. ii, fig. 2.—The LESSER REED-WARBLER.

Upper parts russet brown, greyer on the head, more tawny on the rump and upper tail coverts, and paler on the edges of the wing coverts; tail feathers blackish brown, irregularly margined with rufous brown, and broadly terminated with whitish; stripe over the eye and a streak from the bill under the cheeks and ear coverts yellowish buff; ear coverts hair brown; under wing coverts whitish; primaries and secondaries dark brown, narrowly edged with rufous brown; under surface buff, paler on the throat and upper breast, which and the whole breast are spotted with black brown. In the next stage the throat and breast are unspotted, and the whole under surface, including these, are brighter yellow; the rump is also unstreaked or almost so; the rectrices are not so broadly tipped white, and the eye streak, chin, throat, and the whole lower plumage are yellowish buff. In spring the adult birds have the head blackish brown, each feather narrowly edged with pale reddish brown. An unmarked reddish brown collar is present in some; the back, scapulars, and wing coverts dark blackish brown, rather broadly edged with reddish brown; the rump is also reddish brown; the upper tail coverts reddish brown with a central spot of black; outer tail feathers nearly all black, with scarcely any rufous margins; towards the middle the feathers become less black and more margined with rufous, the central pair being rufous with only a black shaft line; all the feathers are tipped with white; chin, throat and centre of abdomen whitish; rest of the under parts delicate buff; bill dark brown; legs whitish; irides sepia brown.

*Length*.—5·5 inches; wing 2·3; tail 2·2; tarsus 0·85; bill from gape 0·7.

*Hab.*—Central and Eastern Siberia, where it breeds. It passes through China on migration, and winters in India, Ceylon, the Burmah Peninsula, and the Islands of the Malay Archipelago. In India it is found in the N. W. Provinces, Oudh, Bengal, and Central India, also Assam. It is also recorded from the Khasia Hills. In Burmah Oates says it occurs in Pegu, and probably also in Arrakan and Tenasserim. It summers in Siberia and occasionally straggles into Europe. It is shy, and never by any chance seen except by accident. Oates says it swarms in inundated paddy fields to an incredible extent. After the 16th December the bird disappears entirely. Quoting Dybowsky, Oates has it that it makes its nest in a tuft of grass close to the ground, and lays five or six eggs, which are rosy white, speckled with reddish brown.

**313. *Locustella straminea*, (Severtz). Seebohm, *Cat. B. Br. Mus.* v. p. 117. *Acridiornis straminea*, Severtz, *Turkest.*, *Jevotn.* p. 66, 1873. *Locustella lanceolata*, (Tem.) *apud. Dresser, Ibis*, 1876, p. 90. *Locustella Hendersoni*, (Cass.) *apud. Hume, Str. F.* vi. p. 340, 1878.—THE SIBERIAN GRASSHOPPER WARBLER.**

Upper parts pale olivaceous brown, each feather having a well defined dark brown centre; lores and feathers behind the eye olivaceous brown, obscurely streaked, supercilium nearly obsolete; wings brown, the outside webs edged with pale olivaceous brown; tail brown, also edged paler externally and tipped obscurely with the same; chin, throat, and centre of abdomen white, shaded with brownish on the flanks and breast, and greyish white on the under tail coverts, which are centred brown; upper mandible dark brown, the lower pale horn; rictal bristles obsolete.

Legs, feet, and claws pale horn. (Seebohm.)

*Length*.—4·95 inches; wing 2·4 to 2·05; tail 1·9 to 2·2; culmen 0·48 to 0·55; *2nd primary between 4th and 5th or 5th and 6th.*

*Hab.*—N. W. Provinces (Etawah).

Seebohm says it is supposed to breed in South-Western, Siberia from the Ural Mountains to Turkestan, and to winter in the plains of India.

**314. *Locustella lanceolata*, (Tem.) Wald. *Ibis*, 1874, p. 139; *id. in Blyth, B. Burm.* p. 121; *Dresser, B. Eur.* ii. p. 617; Seebohm, *Cat. B. Br. Mus.* v. p. 118; Oates, *B. Br. Burm.* i. p. 104; *Hume and Dav., Str. F.* vi. p. 118. *Sylvia lanceolata*, Tem. *Man. d'Orn.* iv. p. 614. *Lusciniopsis hendersoni*, Cass. in *Proc. Phil. Ac. Sc.* 1858, p. 194. *Locustella minuta*, Swinh., *P. Z. S.* 1863, p. 93. *Locustella macropus*, Swinh., *P. Z.* 8, 1863, p. 93. *Locustella subsignata*, Hume, *Str. F.* i. p. 409.—TEMMINCK'S GRASSHOPPER WARBLER.**

Upper parts russet brown, each feather centred with dark brown; quills brown, the primaries and secondaries externally edged with russet brown, and the tertiaries on both webs; tail brown, obscurely edged paler; ear coverts hair brown; sides of the head streaked with russet and dark brown; chin, throat, and centre of abdomen ochraceous white; rest of under surface darker ochraceous, streaked with blackish brown; under wing coverts pale vinaceous; legs fleshy white; claws pale horn; upper mandible dark brown, the lower yellow at base and brown at tip; iris brown; *2nd primary generally between the 3rd and 4th.*

*Length*.—5·2 inches; wing 2·1 to 2·25; tail 1·8 to 2; tarsus 0·75 to 0·78; culmen 0·55; from gape 0·6.

*Hab.*—British Burmah and the Andaman Islands during winter. In Pegu Oates found it abundant from October to February. Mr. Davison procured it at

various places in Tenasserim quite down to the extreme southern portion of the Division. It is diffused over China, and possibly in the Islands of the Malay Archipelago. It summers in Siberia. Its habits are not unlike those of *L. straminea*.

**Gen. Lusciniola, —Gray.**

General characters of *Locustella*; wing rather short; 1st quill longer than the primary coverts, and never more than half the length of the 2nd, which is a little shorter than the 3rd and 4th, which are equal; tail graduated; tarsus moderate, more or less distinctly scutellated in front.

**315. *Lusciniola ædon*, (Pall.) Seebohm, Cat. B. Br. Mus. v. p. 121.** *Muscicapa ædon*, Pall. *Reis. Russ. Reichs*, iii. p. 695. *Phragmaticola olivacea*, (Blyth) *Ferd., Madr. Journ.* xiii. pl. ii. p. 129. *Arundinax olivaceus*, *Ferd., B. Ind.* ii. p. 157, No. 518. *Arundinax ædon*, *Hume, Str. F.* ii. p. 234; *Armstrong, Str. F.* iv. p. 328; *Hume and Dav., vi.* p. 339; *Hume, Str. F.* viii. p. 100. *Arundinax ædon*, *Blyth, B. Burm.* p. 104; *Oates, Str. F.* x. p. 215; *Oates, B. Br. Burm.* i. p. 98.—PALLAS'S GRASS-WARBLER.

Upper parts fulvous olive brown, brightest on the rump; wing coverts, quills, and tail brown, all edged with fulvous olive brown externally; lores brown; ear coverts and sides of the neck fulvous olive brown; no superciliary streak; under surface buffish white, lighter on the chin, throat, and abdomen and suffused with russet brown on the flanks, vent and under tail coverts; axillaries and under wing coverts buff; upper mandible dark horny brown, lower flesh colour tipped with orange; legs and feet plumbeous; claws horn colour.

*Length.*—7·7 inches; wing 3' to 3·3; tail 3'1 to 3·5; tarsus 1·1; culmen 0·7 to 0·8; from gape 0·88; 2nd primary intermediate between 7th and 8th or equal to 7th.

*Hab.*—Punjab, N.-W. Provinces, Oudh, Bengal, the Carnatic, also Nepaul and British Burmah during winter. It is spread well over the whole of Northern India and British Burmah. In the latter, it has been found over the whole of Pegu, also in Arrakan, Tenasserim, and the Andamans. Breeds in S.-E. Siberia and North China. It is usually seen on reeds, in marshes, ponds, &c.

**316. *Lusciniola thoracica*, (Blyth) Seebohm, Cat. B. Br. Mus. v. p. 124.** *Dumeticola thoracica*, *Blyth, J. A. S. B.* xiv. p. 584; *id. Cat. B. As. Soc.* p. 183. *Dumeticola affinis*, (Hodgs.) *Ferd. B. Ind.* ii. p. 158; *Brooks, Str. F.* 1875, p. 286.—HODGSON'S GRASS-WARBLER.

Upper parts dark russet brown, tinged slightly with olive; lores and feathers behind the eye dark brown; eye stripe pale ashy white, rather indistinct; wings and tail like the back; chin and centre of abdomen nearly white, shading into pale ashy grey on the throat and breast, and olive brown on the flanks and under



tail coverts, which latter are broadly tipped with whitish; throat spotted with dark brown; bill dark brown; *2nd primary* equal to the 9th or 10th, the first, half the length of the 2nd; legs, feet, and claws pale horn colour; axillaries greyish white.

*Length*.—4.95 inches; wing 2 to 2.3; tail 1.8 to 2.5; culmen 0.52; tarsus 0.78 to 0.83.

Hodgson's Grass-Warbler is said to breed in South Siberia and N.-W. China. It is known only from N.-W. India, in the Himalayas, and between Simla and Mussoorie. It is also recorded from Nepal.

**317. *Lusciniola luteiventris*, (Hodgs.) Seebohm, Cat. B. Br. Mus. v. p. 125.** *Tribura luteoventris*, Hodgs. M. S. *Drawings Nepaul Birds*. *Dumeticola mandelli*, Brooks, *Str. F.* 1875, p. 286. *Dumeticola luteoventris*, (Hodgs.) Brooks, *Str. F.* 1875, p. 286.—THE BROWN GRASS-WARBLER.

Upper parts russet brown, inclining to olive; lores and behind the eye dark brown; eye stripe pale chestnut, very indistinct; wings and tail slightly darker than the back; chin, throat, and centre of abdomen nearly white, shading into pale chestnut on the breast, flanks, thighs, and under tail coverts; axillaries and under wing coverts buffish white, mottled with brown on the shoulder; inner margin of quills pale brown; upper mandible dark brown, under mandible pale horn colour; wing short; *2nd primary equal to the secondaries*; legs, feet, and claws pale brown. (Seebohm.)

*Length*.—4.9 to 5.5 inches; wing 1.95 to 2.25; tail 2.2 to 2.6; culmen 0.5; tarsus 0.7 to 0.8.

Brooks under *Dumeticola mandelli* (*Str. F.* 1875, p. 284,) gives the measurements of two skins of this species as 5.4 and 5.5 inches, both from Native Sikkim. Under *Tribura luteoventris* (t. c.) from the same locality and the Bhootan Doars, he gives the length as 5.10 to 5.25; wing 1.97 to 2.23.

The Brown Grass-Warbler is confined to the Himalayas, having hitherto only been found in Nepal, the N.-W. Provinces, and Sikkim. It is recorded by Seebohm from Darjeeling.

**318. *Lusciniola indica*, (Ferd.) Seebohm, Ibis, 1880, p. 277; id. Cat. B. Br. Mus. v. p. 126.** *Sylvia indica*, Ferd., *Mad. Journ.* xi. p. 6. *Phyllopneuste indicus*, (Ferd.) Ferd. B. Ind. ii. p. 194; Brooks, *Ibis*, 1869, p. 56; *Godw.-Austen J. A. S. B.* xli. pt. 2, p. 142; Seebohm, *Ibis*, 1877, p. 87.—JERDON'S GRASS-WARBLER.

Upper parts earthy brown with a slight tinge of ochraceous on the rump; *eye stripe deep yellow*, shading into buffy from behind the eye; lores and feathers behind the eye earthy brown; quills brown, very narrowly tipped with pale; tail brown, the feathers narrowly tipped and margined with greyish white on the inner web; *under surface of body buffish yellow*; axillaries and wing coverts buff; bill Phylloscopine; upper mandible dark brown, the under mandible pale horn colour; legs, feet, and claws brown; irides dark brown.

*Length*.—5.25 inches; wing 2.2 to 2.65; tail 1.75 to 2.2; culmen 0.55; tarsus 0.8; 4th and 5th primaries nearly equal and longest; 2nd about equal to 10th; 1st 0.65 to 0.85 inch.

*Hab.*—N.-W. and Central Provinces, Oudh, Bengal, Central India, and the Concan; at Matheran and Deccan.

Jerdon's Grass-Warbler has been obtained near Jaulnah in Central India, also on the Northern Ghauts and at Mhow, Saugor, and Khandeish. Jerdon says it frequents trees, but is more common in bushes and shrubs near rocks, and especially on rocky cliffs, which it appears to affect much. It probably breeds in the alpine districts of the Himalayas.

**319. *Lusciniola fuscata*, (Blyth) Seebohm, *Cat. B. Br. Mus.* v. p. 127. *Phyllopneuste fuscata*, Blyth, *J. A. S. B.* xi. p. 113; Blyth and Wald, *B. Burm.* p. 105. *Horornis fulviventris*, *Hodgs. MS. Drawings B. Nepaul*, pl. 63; *id. P. Z. S.* 1845, p. 31. *Phylloscopus brunneus*, Blyth, *J. A. S. B.* xiv. p. 591. *Phylloscopus fuscatus*, (Blyth) *Ferd. B. Ind.* ii. p. 191; Seebohm, *Ibis*, 1877, p. 85; Armstrong, *Str. F.* iv. p. 329; Hume and Dav., *Str. F.* vi. p. 352; Cripps, *Str. F.* vii. p. 285; Hume, *Str. F.* viii. p. 102. *Herbivocula fuscata*, (Blyth) Oates, *B. Br. Burm.* i. p. 92.—  
THE BROWN BUSH-WARBLER.**

Upper parts brown; wing and tail the same, but edged exteriorly with olive brown, and on the inner webs with pale buff or olive brown; supercilium, reaching to the nape, buff; cheeks and ear coverts buff, tinged with brown. Chin, throat, and abdomen buffy white; breast, flanks, axillaries, vent, and under tail coverts rich buff; bill *Phylloscopine*; upper mandible dark brown; under mandible pale; rectal bristles fairly developed; iris brown; legs and feet dusky flesh colour; claws yellowish horn colour.

*Length*.—5.3 inches; wing 2.3 to 2.55; tail 2.2 to 2.4; culmen 0.45 to 0.49; tarsus 0.8 to 0.9.

*Hab.*—N.-W. Provinces, Oudh, Bengal, Assam, British Burmah, and Nepaul. In India it is a winter visitor. Oates says during this season it is common to every portion of Pegu. Mr. Davison got it at Tenasserim as far south as Tavoy. It also winters in South China. In summer it is found in Eastern Siberia and Japan. According to Seebohm it breeds in South-Eastern Siberia.

The Brown Bush-Warbler confines itself to low jungle and grass land, and, according to Seebohm, is especially fond of wet localities and the banks of nullahs and ditches. It has a low single note, which it frequently utters while flitting from spot to spot.

**320. *Lusciniola schwarzi*, (Radde) Seebohm, *Ibis*, 1880, p. 277; *id. Cat. B. Br. Mus.* v. p. 128. *Sylvia (Phyllopneuste) schwarzi*, Radde, *Reis. Sibir. Voy.* p. 260. *Herbivocula schwarzi*, Swinh. *P. Z. S.* 1871, p. 354; Oates, *B. Br. Burm.* i. p. 9. *Phylloscopus brooksi*, Wald. in *Bl.***

*B. Burm.* p. 105. *Neornis flavolivacea*, *Hodgs.?* *apud. Hume, Str. F.* iii. p. 139; *Oates, Str. F.* x. p. 221. *Phylloscopus schwarzi*, *Brooks, Str. F.* iv. p. 277; *Seeböhm, Ibis*, 1877, p. 84; *Hume and Dav., Str. F.* vi. p. 353; *Hume, Str. F.* viii. p. 102; *Bingham, Str. F.* ix. p. 186.—RADDE'S BUSH-WARBLER.

Upper parts olive brown tinged with tawny, especially on the rump; wings and tail brown, edged on the outer web with the colour of the back; supercilium, reaching to the nape, buff; lores and feathers behind the eye dark brown; ear coverts buff and brown; under surface rich tawny buff, paling on the throat and abdomen; axillaries and under wing coverts buff; bill short, thick, and wide at base; upper mandible dark brown, under mandible pale; 4th and 5th primaries longest; 2nd intermediate in length between 7th and 8th; the 1st frequently more than half the length of the 2nd; legs and feet pale horn colour.

*Length*.—5·6 inches; wing 2·35 to 2·5; tail 2·2 to 2·05; culmen 0·48 to 0·5.

In summer the lower parts are nearly white with, in some, a slight tinge of yellowish white or buff.

*Hab.*—British Burmah, where Oates says it has been frequently met with in winter, and in North Pegu. It has also been obtained at Kyeikpadien, and by Davison in the northern half of the Tenasserim Division, at Pahpooon, and other places. Captain Bingham got it in the Thoungyeen Valley. It also winters in South China. Breeds in South-Eastern Siberia. Affects low bushes and dense jungle.

**321. *Lusciniola fuliginiventris*, (*Hodgs.*) *Seeböhm, Ibis*, 1880, p. 277. *Horornis fuliginiventer*, *Hodgs. P. Z. S.* 1845, p. 31. *Phylloscopus fuliginiventer*, (*Hodgs.*) *Blyth, Ibis*, 1867, p. 28.**—THE SMOKY GRASS-WARBLER.

Upper parts dark olive brown; wings and tail dull chocolate brown; an indistinct supercilium and the whole of the under surface of the body, including the axillaries and under wing coverts, pale olive brown, yellowish on the throat and middle of abdomen; bill Phylloscopine; both mandibles dark brown, the under mandible slightly paler at base; legs and feet brown.

*Length*.—5·3 inches; wing 2·1 to 2·3; tail 1·75 to 2·0; culmen 0·45 to 0·5.

*Hab.*—Nepaul and Sikkim.

**322. *Lusciniola neglecta*, *Hume, Ibis*, 1870, p. 143; *Blanf. East. Persia*, ii. p. 182; *Seeböhm, Ibis*, 1877, p. 99; *id. Cat. B. Br. Mus.* v. p. 131. *Phylloscopus neglectus*, (*Hume*) *Hume, Str. F.* p. 195. *Lusciniola neglectus*, (*Hume*) *Murray, Veri. Zool., Sind*, p. 150.**—HUME'S GRASS-WARBLER.

The following is Mr. Hume's description of the species:—

"The lores are brownish white; a comparatively pure and very narrow white streak runs from the nostrils over the lores and eyes, but not beyond;

the whole upper surface is dull earthy brown, with, in some, a faintly olivaceous rufescent tinge on the back, most conspicuous on the rump; the quills and tail are a moderately dark hair brown, narrowly margined on the outer webs with pale olivaceous brown, much the same colour as the upper parts; the secondaries are very narrowly margined at the tips with albescent; the whole lower surface is albescent, tinged with very pale fulvous fawn, or earthy brown, more strongly so in some specimens than in others; the sides and flanks are pale earthy brown; the wing lining and axillaries are white with, at times, the faintest possible fulvous or brownish tinge.

"*Length*.—4 to 4·2 inches; expanse 6·25 to 6·4; tail from vent 1·4 to 1·6; wing barely 2 to 2·15; bill at front 0·27 to 0·3; tarsus 0·68 to 0·71. The 4th primary the longest, the 3rd and 5th a hair's breadth shorter, the 2nd 0·26 to 0·3, and the 1st 1 to 1·1 shorter than the 4th; the irides are brown; the legs and feet black; the bill black, paler or horny greenish in some at the base of the lower mandible."—*Str. F.* i. p. 196.

*Hab.*—Sind, Punjab, N.-W. Provinces, Beloochistan, and Persia. A winter visitant; chiefly affecting acacia groves.

**323. *Lusciniola melanopogon*, (Tem.) Gray.** *List. Gen. B.* p. 28; *Heuglin, Orn. N. D. Afr.*; *Salvad. Faun. Ital. Ucc.* p. 116; *Hume, Str. F.* 1873, p. 190; *Seeböhm, Cat. B. Br. Mus.* v. p. 132; *Murray, Vert. Zool., Sind*, p. 149. *Sylvia melanopogon*, (Tem.) *pl. Col.* 245, fig. 2. *Calamodus melanopogon*, (Tem.) *Blanf. E. Persia* ii. p. 198.—The Moustached Grass-Warbler.

A broad conspicuous white stripe from the nostrils over the eyes and ear coverts; a dark brown stripe from in front of, under, and through the eyes, enveloping the upper portion of the ear coverts, darker in the males than in the females; the chin, throat, and lower parts, including the lower tail coverts, white, faintly tinged rufescent on the breast, more strongly so on the flanks, about the vent, and in some specimens the lower tail coverts also; the sides both of the neck and of the body tinged with greyish or, in some, olivaceous brown; forehead, crown, occiput, and nape very dark brown, the feathers tipped and margined a paler yellowish olive brown; in some specimens these tippings entirely obscure the base, except on a narrow line immediately above the white eye streak; in others these parts appear to be very dark brown regularly striated with a pale olive brown, while in some the tippings are almost wanting; the back, scapulars, rump, and upper tail coverts, the same yellowish olive brown, becoming more rufescent on the lower back, rump, and upper tail coverts; the feathers of the centre of back with more or less conspicuous dark central shaft-streaks; in some birds the whole back seems regularly streaked with dark lines, in others only a few faint darker streaks are visible in the very centre of the back; in some again the lower back is much more decidedly rufous; the wings are hair brown; the primaries very narrowly

marginated and tipped on the outer web paler; the secondaries and tertiaries and most of the coverts more distinctly marginated with a sort of rufescent olive, the wing lining and axillaries pure or nearly pure white; tail feathers somewhat pale hair brown, obscurely marginated with rufescent olive; the shaft dull white below. "The plumage," Mr. Hume says, "is rather variable, and in some specimens the flanks and tail coverts are much browner than above described; the upper surface, too, varies a good deal in its general appearance \* \* \* ; all the quills are marginated on their inner webs albescent."

Dimensions from the fresh bird—sexes not differing appreciably in size.

*Length*.—5·7 to 5·8 inches; expanse 7·3 to 7·5; tail from vent 2 to 2·2; wing 2·4 to 2·5; wing, when closed, reach to within 1·25 to 1·4 of end of tail; bill at front 0·42 to 0·47; tarsus 0·82 to 0·87; hind toe and claw 0·55, claw only from root to point 0·3; weight 0·35 to 0·4 oz.; irides brown to pale brown; feet dark horny grey, in some dusky brown; legs dusky brown; soles pale yellowish; bill very dark brown, almost black, paler on lower mandible.—*Hume, Stray Feathers*, vol. i., p. 191.

*Hab.*—Sind, Punjab, N.-W. Provinces, Beloochistan, Persia, and Afghanistan. A winter visitant.

Seebohm says it appears to be a resident on both shores of the Mediterranean, extending eastwards into Persia. In Sind and the N.-W. Provinces it is only a winter visitor. Probably breeds in Turkestan.

#### Gen. *Cettia*.—*Bonap.*

This genus contains a small group of Bush-Warblers, distinguished by having only ten tail feathers. The wing is generally rounded; the 1st primary always half the length of the 2nd or a little more; the 2nd is nearly equal to the secondaries; tail rounded, the outermost feathers two-thirds to five-sixths the length of the longest; tarsus and feet robust, the former scutellated in front. The predominant colours are russet brown and olive brown. (Seebohm.)

**324.** *Cettia cetti*, (*Marm.*) *Degl. Orn. Eur.* i. p. 518; *Murray, Vert. Zool.*, Sind, p. 151; *Seebohm, Cat. B. Br. Mus.* v. p. 135. *Sylvia cetti*, *Marm. Mem. Acc. Tor.* xxx. p. 254; *Tem. Man. d'Orn.* i. p. 194. *Bradypterus cetti*, (*Marm.*) *Cat. Mus. Hein.* i. p. 43; *Shelley, B. Egypt*, p. 89; *Dresser, Ibis*, 1876, p. 89. *Cettia orientalis*, *Tristram, Ibis*, 1867, p. 79. *Cettia stolickza*, *Hume, Str. F.* ii. p. 520. *Cettia cettioides*, *Hume, Str. F.* i. p. 194. *Bradypetes cetti*, (*Marm.*) *Blanf. East Persia* ii. p. 200.—**CETTI'S BUSH-WARBLER.**

"A spot in front of the eyes dusky; a streak from the nostrils over the eye and a circle round the eye fulvous white; the forehead, crown, and whole upper surface a warm rufous or ferruginous brown, more rufous on the rump

and upper tail coverts; the quills and tail hair brown, margined with rufescent olive; ear coverts, sides of the neck, body, flanks and vent feathers a pale dull greyish or earthy brown; chin, throat, breast, and abdomen white, lower tail coverts slightly rufous brown (webs very lax and much disunited) narrowly tipped with white; axillaries and wing lining slightly greyish white; the edge of the wing just above the base of the primaries is white; in some few specimens the eye streak extends beyond the eye to more than half of the ear coverts, but in most it ceases just beyond the posterior angle of the eye; irides brown; legs and feet pale brown or fleshy brown, darker on toes and claw; bill dark horny brown, but paler on lower mandible.

"Length.—5·8 to 6·5 inches; expanse 7·5 to 8·4; tail from vent 2·4 to 3; wing 2·5 to 2·8; wings, when closed, reach to within from 1·2 to 2 of end of tail; bill at front 0·4 to 0·5; tarsus 0·8 to nearly 0·9; weight 0·4 oz."—*Stray Feathers*, vol. i. p. 191.

*Hab.*—Sind, Beloochistan, Persia, and Afghanistan. Found in France, Spain, Algeria, Greece, Asia Minor, Palestine and Turkestan.

It is found on both shores of the Mediterranean, extending eastwards as far as Turkestan. It winters in Sind. Mr. Blandford obtained it in the Elburz Mountains north of Tehran, where it abounded in bushes on the sides of the valleys. Menetries found it on the Talish Mountains south of Lankoran. Mr. Blandford found its nest near Asupas. He describes it as cup-shaped, deep, rather roughly constructed of dried grass and lined with a little down of plants. Eggs, two in number, uniform dull brick red in colour. Size 0·75 inch × 0·57.

Mr. Hume gives an interesting account of its skulking habits among the almost impenetrable rushes.

**325. *Cettia fortipes*, (Hodgs.) Seebohm, P. Z.'S. 1878, p. 980; *id.*, *Ibis*, 1879, p. 36; *id.*, *Cat. B. Br. Mus.* v. p. 137. *Horornis fortipes*, *Hodgs. MS. Drawings B. Nepaul*, pl. 63; *Blyth, J. A. S. B.* xiv. p. 584; *Jerd. B. Ind.* ii. p. 162; *Hume, Nests and Eggs*, p. 329; *Brooks, Str. F.* viii. p. 475. *Drymoica brevicauda*, *Blyth, J. A. S. B.* xvi. p. 459. *Horornis assimilis*, (Gray) *Brooks, Str. F.* x. p. 170. *Neornis assimilis*, *Bl. Ibis*, 1867, p. 22; *Godwn.-Austen, J. A. S. B.* xliii. pt. ii. p. 167; *Wald. in Bl. B. Burm.* p. 105; *Hume and Dav.*, vi. p. 351; *Schœnicola fortipes*, *Hume, Str. F.* viii. p. 101.—HODGSON'S HILL-WARBLE.**

Upper surface rich russet brown; lores and ear coverts darker russet; eye streak indistinct pale brown, in some with a yellowish tinge; wings and tail brown, the outer webs edged with russet brown; under surface of body buffish brown; axillaries and under wing coverts pale yellow; bill dark brown, the base of lower mandible paler; legs and feet pale brown; irides pale brown.

Length.—4·5 inches; wing 1·88 to 2·28; tail 1·86 to 2·21; culmen 0·48 to 0·56; from gape 0·62; tarsus 0·83.

*Hab.*—The Himalayas from Cashmere to Assam, Sikkim, Eastern Bengal, Western China, Burmah and the Island of Formosa. Recorded from Nepaul, Darjeeling, Kashgar and British Burmah. It has been procured in Karin by Captain Wardlaw-Ramsay, and by Dr. Anderson in the hills east of Bhamo. Colonel Godwin-Austen got it in the hill tracts of Eastern Bengal. Seebohm says "in all localities it is doubtless a partial migrant, breeding at high elevations above the level of winter snow, and descending lower into the valleys during the cold season.

**326. *Cettia flavolivacea*, (Hodgs.) Seebohm, *Ibis*, 1879, p. 36; *id. Cat. B. Br. Mus.* v. p. 138. *Neornis flavolivacea*, Hodgs., *MS. Drawings B. Nepaul*, pl. 61 fig. 1; *Ferd. B. Ind.* ii. p. 188, No. 552. *Neornis cacharensis*, (Hodgs.) Gray, *Cat. Mam. & B. Nepaul*, p. 67.—THE HIMALAYAN BUSH-WARBLER.**

Upper parts dark brownish green, paler on the rump; lores and feathers behind the eye brown; supercilium rather indistinct, buffish yellow; wings and tail brown, the outer webs of the feathers edged with brownish green. Chin, throat and centre of abdomen deep yellow, with a brownish tinge on the breast, flanks, thighs and under tail coverts; axillaries and under wing coverts bright yellow; inner margins of quills nearly white; bill dark brown, paler at base of lower mandible; 4th, 5th and 6th primaries nearly equal and longest; legs and feet brown.

*Length.*—4·5 inches; wing 1·9 to 2·15; tail 1·9 to 2·2; culmen 0·51 to 0·48; tarsus 0·9.

*Hab.*—The Himalayas from Nepaul to Assam. Breeds at high altitudes.

**327. *Cettia pallidipes*, (Blanf.) Seebohm, *Ibis*, 1879, p. 36; *id. Cat. B. Br. Mus.* v. p. 139. *Phylloscopus pallidipes*, Blanf., *J. A. S. B.* xli., pt. ii. p. 162; pl. vii. (1872). *Horeites sericea*, Walden, *Blyth, Wald. in B. Burm.* p. 119; *Tweed., Ibis*, 1877, p. 487; *Hume, Str. F.* v. p. 57. *Horeites pallidipes*, *Hume and Dav., Str. F.* vi. p. 344; *Hume, Str. F.* viii. p. 101; *Oates, B. Br. Burm.*, i. p. 122.—BLANFORD'S HILL WARBLER.**

Upper plumage, tail, and wings olive brown; a broad supercilium greyish white; lores and feathers behind the eye olive brown; ear coverts greyish white; under surface white, very slightly tinged with brownish on the breast, flanks, and under tail coverts; axillaries and under wing coverts white. Bill *Phylloscopine*, yellow, the under mandible pale brown; 4th, 5th, and 6th primaries nearly equal and longest; 2nd shorter than the secondaries; 1st more than half the length of the second; iris dull brown; legs fleshy white.

*Length.*—4 inches; tail 1·7; wing 2·05 to 2·2; bill from gape 0·55.

*Hab.*—Sikkim and Assam, also Tenasserim. Oates says, "Blanford's Hill-Warbler was procured at Pahpoo in Tenasserim by Mr. Davison, and on the

Karin Hills east of Tounghoo by Captain Wardlaw-Ramsay. It was first discovered by Blanford in Sikkim, where it is probably a partial migrant, ascending to a considerable elevation to breed.

**328. *Cettia brunneifrons*, (Hodgs). Seebohm, *Ibis*, 1879, p. 36; *id.*, *Cat. B. Br. Mus.* vi. p. 143. Horeites brunneifrons, Hodgs., *M. S. Drawings*, *B. Nep. Passeres*, pl. 62, a fig 1; *Bly.*, *J. A. S. B.* xiv. p. 585; *Ferd. B. Ind.* ii. p. 163, No. 527; *Brooks*, *J. A. S. B.* xli. pt. ii. p. 78, (1878). Horeites pollicaris (Hodgs.), *Ferd. B. Ind.* ii. p. 163, No. 528.—THE NEPAUL-  
ESE BUSH-WARBLER.**

Upper surface dark russet-brown, shading into brownish red on the nape and head; supercilium buffish white, extending to the nape; wings and tail dark russet-brown, their outer webs edged with the same; chin and centre of belly nearly white, shading into ashy grey on the sides of the neck and breast and into russet-brown on the flanks, thighs, and under tail coverts; axillaries and under wing coverts nearly white. Bill Phylloscopine, upper mandible dark brown, the under mandible pale brown; primaries, secondaries, and 1st quill as in the last; legs, feet, and claws pale brown.

*Length*.—4·37 inches; wing 1·7 to 1·95; tail 1·5 to 1·8; tarsus 0·73 to 0·75; culmen 0·4 to 0·45.

*Hab.*—The Himalayas from Nepaul, the Mountains of Chinese Thibet to Sikkim, as low as Darjeeling. Breeds at high elevations.

**329. *Cettia major*, (Moore), Seebohm, *Ibis*, 1879, p. 36; *id.*, *Cat. B. Br. Mus.* v. p. 145, pl. vii. Horeites major, Moore, *P. Z. S.*, 1854, p. 105; (*descr. prem.*); *Ferd. B. Ind.* ii. p. 164, No. 529.—MOORE'S BUSH or LARGE HILL-WARBLER.**

Upper surface olive brown, shading into russet on the wings and tail, which are edged with dark olive brown, and into rich dark russet-brown colour on the nape and head; supercilium yellowish ferruginous, extending over the ear coverts, which are brown tinged with ruddy; chin and abdomen white; throat, sides of neck, and centre of breast olive brown, deeper on the flanks, thighs, and under tail coverts. Bill Phylloscopine, dark brown; under mandible paler at base; 5th and 6th primaries nearly equal and longest; 2nd shorter than the secondaries; 1st more than half the length of the second; legs, feet, and claws pale brown.

*Length*.—3·9 to 4·5 inches; wing 2·41 to 2·63; tail 2·2 to 2·4; tarsus 1·02; culmen 0·55.

*Hab.*—The Himalayas, from Nepaul to Sikkim, and the Mountains of Chinese Thibet, descending into the valleys in the cold season. Seebohm adds that it is probably a partial migrant breeding at or near the limit of forest growth on the Himalayas.



## GROUP—BRADYPTERI.

Aberrant Reed Warblers with 10-12 tail feathers, allied to the Grass-Warblers.

Gen. *Schœnicola*.—*Blyth*.

Bill moderate, rather deep, much compressed; culmen slightly curved; rictal bristles moderate, few; wings moderate, slightly rounded; 4th quill longest, 3rd equal to the 5th; tail moderate, the feathers broad; under tail coverts long, reaching to more than half the length of the tail; tarsus long; plumage lax.

**330. *Schœnicola platyura*, (Ferd.) Blyth, *J. A. S. B.* xiii. p. 374; *Ferd. B. Ind.* ii. p. 73, No. 442; *Hume, Str. F.* 1878, p. 37; *id. Str. F.* 1879, p. 97; *Brooks, Str. F.* 1881, p. 209; *Hume, t. c.* p. 211; *Legge, Birds, Ceylon*, p. 532; *Hume, Str. F.* 1880, pp. 234-260; *Butler, Cat. B. Bom. Pres.* p. 43; *Sharpe, P. Z. S.* 1881, p. 920; *id. Cat. B. Br. Mus.* vii. p. 110. *Timalia platyura*, *Ferd. Madr. Journ.* xiii. p. 170.—The BROAD-TAILED REED-BIRD.**

Upper surface russet or rufous brown, including the ear and wing coverts; quills dusky, externally margined with russet-brown, the innermost secondaries the same on both webs; tail russet-brown, obscurely banded with dusky brown under certain lights; the outer feathers darker and tipped with ashy; lores whitish; supercilium fulvous, also the cheeks and sides of the neck; throat, centre of breast, and abdomen whitish, the former washed with fulvous on the lower parts, also the sides of the body, flanks, thighs, and under tail coverts—the latter washed with ashy at the tips; under wing coverts and axillaries buffish white. Bill horny yellow, 0.4; legs fleshy yellow; irides yellowish brown.

*Length*.—5.8 to 6.3 inches; wing 2.5 to 2.65; tail 2.6 to 2.8; tarsus 0.8 to 0.85.

*Hab.*—Southern India (Belgaum, Travancore, Wynaad, at the foot of the Neilgherries, and Ceylon). According to Jerdon the Broad-tailed Reed-Bird affects reeds in swampy places. In their actions and habits, Captain Butler says: These birds resemble *Chalornis striata* and in the breeding season rise constantly into the air, chirruping like that species, and descending afterwards in the same way on to some low bush or tussock of grass, sometimes even on to the telegraph wires. They are fearful little skulks. If you attempt to pursue them, at once they disappear into the grass, from whence it is almost impossible to flush them again unless you all but tread on them. They breed in September. The food of the Broad-tailed Reed-bird consists chiefly of insects. Captain Butler's notes, in *Str. F.* ix. p. 262, quoted by Mr. Hume, in regard to the nidification of this species are to the effect that the nest is composed of coarse grass, with an entrance on one side, built in long grass.

and about a foot from the ground; the eggs, he says, have 'a purplish white ground, sprinkled all over with numerous small specks and spots of purplish brown and purple (brownish red, almost black in some), with a cap of the same at the large end. They are moderately broad ovals, with but little gloss, Size 0.73 x 0.6.

Gen. **Laticilla**.—*Blyth*.

Bill of moderate length, compressed and slender; the culmen slightly curved; wings short, rounded; 5th and 6th quills longest; second primary shorter than secondaries; tail strongly graduated, long and broad, the outer tail feathers just reaching beyond the under tail coverts, beyond which the outstretched feet do not reach. This genus comprises two species only—both found in India.

**331. *Laticilla burnesi*, (*Blyth*) *Blyth*, *J. A. S. B.* xiv. p. 596; *Hume, Str. F.* 1873, p. 180; 1879, p. 97; *Doig*, t. c. p. 370; *Murray, Vert. Zool., Sind*, p. 134; *Sharpe, Cat. B. Br. Mus.* viii. p. 118; *Eurycercus Burnesii*, *Blyth. J. A. S. B.*, xiii. p. 374; *Jerd. B. Ind.* ii. p. 74, No. 443,—The LONG-TAILED REED-BIRD.**

Above olive brown, paler on the head, rufescent on the back and sides of the neck; the feathers, including the scapulars, mesially streaked with dark brown; rump and upper tail coverts unstriped; lores and round the eye white; ear coverts greyish white; tail olive brown, with faint transverse striæ, the lateral feathers narrowly margined at the tips with whitish; a double line of dark spots from the base of the lower mandible on either side of the throat; under surface white; the flanks and sides brownish, the feathers with fulvous mesial streaks; under tail coverts ferruginous; bill horny brown, paler on lower mandible; irides brown; legs pale horny.

*Length*.—7 to 7.7 inches; wing 2 to 2.3; tail 4; bill at front 0.4.

*Hab.*—Sind, the Punjab, N.-W. Provinces and Bengal. Breeds in Sind from July to September.

Affects high grass jungles, from inside which it is most difficult to flush. When once disturbed, it climbs about in the interior of the reeds and grass, and seldom affords a chance of a shot. It requires much patience and trouble to secure specimens. Hume adds that they cost him more trouble than any other bird he met with in Sind. This is certainly the experience of every one desirous of forming a collection of the species.

**332. *Laticilla cinerascens*, (*Wald.*) *Hume, Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 119. *Eurycercus cinerascens*, *Walden, Ann. and Mag. Nat. Hist.* (4), xvi. p. 156 (1874).—The CINEREOUS LONG-TAILED REED-BIRD.**

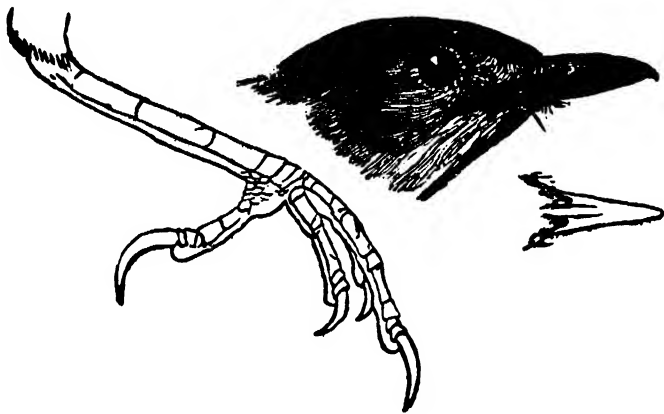
*Adult Male*.—Above olive brown, washed with ashy and streaked with dark brown down the centre of the feathers, a little more ashy on the rump and upper tail coverts, and also on the forehead and sides of crown; wing coverts like the back, ashy on the least series; bastard wing feathers dark brown, externally like the back; primary coverts dark brown, edged with olive; quills the same; tail feathers brown, washed with olive on the outer web, the centre of the feathers darker brown; lores, feathers in front of the eye and eyelid white; cheeks and under surface of body white, ashy on the sides of the breast and flanks, the latter washed with brown, as also the thighs externally; under tail coverts yellowish white or pale fulvous; axillaries and under wing coverts white, with a dusky spot near the edge of the wing.

*Length*.—6 inches; wing 2·1; tail 3·15, tarsus 0·8; culmen 0·55.

*Hab*.—Bengal. Has not been recorded from any other part of India.

### Gen. *Megalurus*.—*Horsf.*

Bill slender, compressed and of moderate length; nostrils apert; rictal bristles few, strong, 3rd quill longest; 4th and 5th nearly equal to it; tarsus long, scutellated; mid toe long.



**333. *Megalurus palustris*.** *Horsf., Trans., Lin. Soc.* xiii. p. 159; *Blyth, Cat. B. Mus. As. Soc.* p. 139; *Jerd., B. Ind.* ii. p. 70; *Hume, Nests and Eggs*, p. 275; *Blyth, B. Burm.* p. 118; *Wald., Tr. Z. S.* ix. p. 189; *Oates, Str. F.* v. p. 156; *Tweed, P. Z. S.* 1877, p. 694; *Hume and Dav., Str. F.* vi. p. 295; *Anderson, Yunnan Exp.* p. 639; *Hume, Str. F.* viii. p. 97; *Oates, Str. F.* x. p. 209; *Sharpe, Cat. B. Br. Mus.* vii. p. 123.—**THE STRIATED MARSH WARBLER.**

Upper surface fulvous brown, the head rather rufous, and each feather with a mesial dark brown shaft streak; wing coverts and quills blackish brown, broadly edged with the colour of the back; tail fulvous brown, the shafts and the

portion of each feather near them dusky; supercilium greyish white; chin and throat white; sides of the neck and all the lower plumage earthy brown, tinged with buff on the flanks; vent and undertail coverts, also the breast, with a few brown streaks.

The young are distinguished from the adult by the yellow colour of the under surface and lores, the streaks on the throat are absent, and only slightly indicated; the flanks and under tail coverts uniform light rufescent brown; bill black, pale horn on the lower mandible; iris pale brown; eyelids plumbeous.

*Length*.—9 to 10 inches; wing 3·2 to 4; tail 4·5 to 4·9; tarsus 1·3; bill from gape 0·95.

*Hab.*—Punjab, N.-W. Provinces, Bengal, Central India, Assam, and British Burmah.

The Striated Marsh Warbler has a very wide range. It is found in the Malayan Peninsula and Java. In Pegu, according to Oates, it is locally distributed, being found only where there is long grass. It occurs on the banks of the Irrawady and tributaries of the Godavery, also on the Nerbudda, but is most abundant in lower Bengal, where the country is intersected by rivers, and where long grass and reeds cover it for miles. It generally keeps in couples, and seldom moves away from the spot it selects for its feeding ground. During the cold weather, and up to the end of the breeding season, this bird has a fine song, which it utters while flying from one patch of grass to another, and which Blyth calls a fine flute-like voice. In doing this, it is said to mount 30 or 40 feet into the air, and to come down with motionless outspread wings. It breeds in May, making a partially domed structure of coarse grasses, in tufts of grass not very high from the ground. The eggs are usually 4 in number, white and speckled with purplish brown.

#### Gen. *Chætornis*.—Gray.

Bill short, about one-half the length of that of *Megalurus*, strong, high, compressed, curved on the culmen, hooked at the tip and notched. Five strong bristles on each side between the gape and the eye; wings long, the 3rd quill longest; legs and feet strong.



**334. *Chætornis locustelloides*.** (*Blyth*), *Blyth*, *J. A. S. B.* xi. p. 602; *Sharpe*, *Cat. B. Br. Mus.* vii. p. 130. *Dasyornis collurioceps*, *Blyth* *tem. civ.* p. 603. *Chætornis striata*, *Gray*, *Gen. B.* i. p. 167, pl. 48, fig. 9; *Ferd.*, *B. Ind.* ii. p. 72, No. 441; *Ball*, *Str. F.* 1875, p. 288; *Butler*, *Str. F.* 1877, p. 209; *Ball*, *t. c.* p. 416; *Hume*, *Str. F.* 1878, p. 215; *Cripps*, *t. c.* p. 279; *Butler*, *Cat. B. Sind. &c.*, *Str. F.* 1879, p. 29.—The GRASS WARBLE.

Upper surface brown, the feathers streaked medially with dark brown, and edged with fulvous or white-brown; lower back, rump, and upper tail coverts less broadly streaked; quills dark brown; broadly edged externally with rufescent or tawny buff; centre tail feathers dark brown, darker along the middle from where dusky bars radiate, forming dusky bands; rest of the feathers dark brown externally washed with lighter brown and tipped with white; forehead fulvous brown; lores dull whitish; supercilium buffy white; throat and centre of body dull white, yellowish buff on the chest, sides of the body, thighs, and under tail coverts; axillaries and under wing coverts buffy white; bill dusky brown above, fleshy brown beneath; legs brownish fleshy; irides dull greyish brown.

*Length*.—7·75 to 8 inches; wing 3·3 to 3·5; tail 3·3 to 3·75; tarsus 1·1; bill at front 0·46 to 0·5.

*Hab.*—Bengal, Southern India, and Central India. It has been found on the Neilgheries and at Nellore during the cold season in long grass and rice-fields, also in thickets of reeds. Its habits are quite those of *Megalurms*.

### Group.—CISTICOLÆ.

The position of this group of birds has not been anywhere well defined. There can, however, be no doubt as to its position being next the *Badypteri*, with 10-12, tail feathers strongly graduated or round. The shape and form of the bills of the different Indian genera comprising it show a general affinity, as also the thick orbital bristles, which serve to protect the eyes of the members forming the group, when forcing their way through tufts of grass.

#### Gen. *Suya*.—Hodgs.

Bill stout and compressed, slightly (generally 0·1) shorter than that of *Chætornis striata*, and proportionately less in width; nostrils apert; gape with two strong rictal bristles on each side; tail of 10 feathers very long and much graduated.

**335. *Suya crinigera*,** *Hodgs.*, *As. Res.* xix. p. 183; *Ferd.*, *B. Ind.* ii. p. 183; *Hume*, *Nests and Eggs*, p. 353; *Wald.* in *Bl. B. Burm.* p. 120; *Hume*, *Str. F.* ix. p. 138; *id.*, *Str. F.* vii. p. 1; viii. p. 151; *Scully*, *Str. F.*

viii. p. 305; Sharpe, *Cat. B. Br. Mus.* vii. p. 177. *Suya fuliginosa*, *Hodgs. in Gray's Zool., Misc.*, p. 82; Jerd., *B. Ind.* ii. p. 184; Hume, *Nests and Eggs*, p. 355; *id.*, *Str. F.* viii. p. 101. *Prinia striata*, *Swinh., Journ. N. China, As. Soc.* 1859, p. 227. *Suya obscura*, Hume, *Str. F.* ii. p. 507; vii. p. 2. *Suya striata*, *Dav. et. Oust Ois. Chine*, p. 259; Hume, *Str. F.* vii. p. 1. *Blanfordius striatulus*, Hume, *Str. F.* 1873, p. 300; *id.*, 1879, p. 101; Murray, *Hdbk. Zool., &c., Sind*, p. 157; *id.*, *Vert. Zool., Sind*, p. 153.—THE BROWN HILL WARBLER.

*Adult in breeding plumage.* Above dull brown with a slight olive tint, the feathers margined with greyish olive, causing a somewhat mottled appearance; lower back and rump more uniform; wing coverts brown with greyish olive edges, the outer coverts of the lesser series margined with yellowish white as also the bastard wing and primary coverts; quills brown with hoary olive margins and tips; before the latter a dusky brown subterminal spot; crown of the head like the back, and mottled in the same manner; lores yellowish; *no supercilium*; ear coverts and cheeks yellowish buff, the former dusky along their upper margins; throat and under surface yellowish buff; sides of the breast brown or mottled with dark brown bases to the feathers; abdomen a little clearer yellowish buff; sides of the body and flanks light olivaceous; thighs a little more tawny like the abdomen; under wing coverts and axillaries light tawny. (Sharpe.)

*Bill black*; tarsus fleshy; claws brown and dusky; iris straw or golden yellow. (Scully.)

*Length.*—5·8; wing 2·1; tail 2·3; tarsus 0·8; culmen 0·6.

In non-breeding plumage, Dr. Scully says the bill is brown above; the lower mandible pale yellowish or pinkish horny, the head and upper back more or less rufescent, and more or less deep brown, conspicuously striated with pale more or less rufescent fawn or yellowish brown; the quills margined with bright ferruginous, the supercilium small and inconspicuous and of a creamy colour.

The young female (*Suya obscura*, Hume,) is described by Sharpe as being brown above, with dusky centres to the feathers of the head and back, causing a mottled appearance, less distinct on the back; rump uniform brown; lesser and median wing coverts like the back; greater coverts, bastard wing, primary coverts and quills light brown, with reddish buff margins to the feathers, more distinctly rufous on the outer edge of the primaries; upper tail coverts darker brown; tail feathers brown; with dusky cross bars under certain lights, the edges and tips paler and more fulvous brown; the tips plainer on all but the two centre tail feathers and having a distinct subterminal spot of dusky brown; lores dull whitish, obscured by blackish tips; no distinct eyebrow, but the superciliary feathers, a little paler than the crown; eyelid whitish; ear coverts light

brown, washed with yellowish buff; cheeks, throat, foreneck and chest buffy whitish; breast and abdomen pure white; sides of the breast washed with olive brown; sides of the body, flanks, thighs, and under tail coverts clear fulvous brown; under wing coverts and axillaries pale tawny buff, whiter near the edge of the wing.

*Length*.—5·9 inches; wing 2·15; tail 2·8; tarsus 0·85; culmen 0·45.

A young bird in its first winter dress is described by Hume as *Blanfordius striatulus*. The following is his description:—

“An obscure rufous white streak from the nostrils to the upper part of the eye. The whole upper parts dull greyish olive brown (the grey preponderating on the head), all the feathers except those of the upper tail coverts conspicuously centred with dark brown; wings pale hair brown, all the feathers margined with pale rufescent olive; tail feathers a sort of olive brown, the feathers conspicuously darker, very stiff-looking, and with glistening shafts, all the feathers obsoletely transversely rayed, the central ones most strongly so. All but the central ones narrowly tipped fulvous white, and with an obscure subterminal dark band; on the under surface, the shafts are white; the ear-coverts mingled fulvous and pale rufous brown; the sides of the neck streaked like the back; on either side of the throat descends from the gape, for about half an inch, a band of tiny white feathers, with minute dark centres, so as to produce the appearance of two or three regular rows of little spots on each side of the throat; the chin and the centre of the throat, breast and abdomen white, tinged buffy on the two latter, and with all the feathers of the throat and breast very faintly and narrowly tipped with brown, so as to produce the appearance of a number of narrow, faint, transverse bars. The flanks, sides, vent and lower tail coverts are tinged with dull olive brown mingled with fulvous buff; the wing lining is buffy white, and so are the inner margins of the inner webs of the quills as seen from below.

“*Length*.—(Of the dry skin; female) about 6 inches, wing 1·9, tail from vent 2·75, bill at front about 0·45, tarsus 0·7, tail from vent 2·75, legs and feet, fleshy, bill brown, pale fleshy on lower mandible.”—(*Hume, Str. F. i. p. 300.*)

*Hab.*—From Sind, throughout the Himalayas from Cashmere to Bhootan, and thence through Yunnan to South China and Formosa. Occurs also in the Burmese countries. Recorded from Cashmere, Nepaul, Darjeeling, Sikkim, Bhootan, Momein, Thayetmyo, and Sind. There has been much confusion in regard to the identity of the Brown Hill Warbler, owing to the very material difference in the plumage of the species in its various stages, from nestling to adult. The same remarks apply to all the species of the genus. This circumstance has led to the long full descriptions given of this little species. It is a resident species wherever it is found. It frequents brushwood, and may occasionally be seen on low trees. It seeks its food on the ground, and lives on small insects and larvæ. On tall grass it delights to sit, so Hutton says,

from whence it pours forth a loud and long-continued grating note like the filing of a saw. The nest is large, and loosely constructed of fine grass, with an opening on one side. It breeds in May, June, and July. The eggs, 5 to 7 in number, are white and densely speckled with red.

**336. *Suya atrigularis*, Hodgs. Icon. ined. in Br. Mus. Passeres, App. pl. 36, No. 893; Moore, P. Z. S. 1854, p. 77; Ferd., B. Ind. ii. p. 184, No. 549; Beavan, Ibis., 1867, p. 455; Hume, Str. F. 1878, p. 4; Sharpe, Cat. B. Br. Mus. vii. p. 180. *Prinia atrigularis*, Gray, Hand—L. B. i. p. 197.—The BLACK-BREASTED HILL OR WREN-WARBLER.**

Above dark olive brown, lighter on the rump and upper tail coverts; crown of the head, nape, occiput, and hind neck distinctly dusky, with darker centres to the feathers of the forehead and sinciput; lores and sides of crown dusky, with a slight indication of a narrow white eyebrow; ear coverts dark ashy, with whitish shaft lines; feathers under the eye dusky; cheeks whitish, the feathers tipped with black forming a distinct moustache; sides of the neck, throat, foreneck and breast black; abdomen whitish; the sides of the body and flanks olive brown; thighs reddish olive; scapulars and wing coverts like the back; the greater coverts dusky, externally edged with olive; primary coverts dusky brown with olive margins; quills brown; the secondaries externally reddish near the base, the primaries edged with ashy olive or buffish; tail light brown, paler on the edges of the feathers, which are narrowly tipped with paler brown; under tail coverts pale olive; under wing coverts and axillaries pale tawny buff; bill horny brown; legs pale fleshy; irides yellow brown.

*Length*.—6 to 6·5 inches; wing 1·85; tail 3·6; tarsus 0·85; culmen 0·55.

During winter the black of the throat is wanting, the wing coverts and quills are broadly margined with tawny buff, a distinct white eyebrow is present, and the feathers of the cheeks, throat and breast have slight blackish margins.

*Hab.*—The Eastern Himalayas generally. Is recorded from Nepaul, Darjeeling, and Sikkim. Like its congeners it frequents brushwood. The nest is globular, and made of the same materials as that of the preceding, but with an opening on the top. Eggs, 4 to 5, of a dull Indian red colour.

**337. *Suya khasiana*, Godw.-Austen, Ann. and Mag. Nat. Hist. (4) xviii. p. 412, 1876; Hume, Str. F. 1877, p. 59; id., Hume, Str. F. 1878, p. 3; 1879, p. 101; Sharpe, Cat. B. Br. Mus. vii. p. 181.—The KHASIA WREN-WARBLER.**

Above rufescent brown, the head like the back, the rump rather more fulvous; wing coverts like the back; primary coverts and quills washed with olive brown on the margins; lores blackish, with a narrow line of white above; ear coverts and a line along the sides of the crown in continuation of the white streak dark ashy grey, extending on to the sides of the neck; cheeks white, forming a long moustachial streak; throat, foreneck and breast black, the latter mottled with subterminal spots of white; breast and abdomen



white, with a few blackish margins to the breast feathers; sides of the body and flanks olive brown; thighs tawny buff; under tail coverts olive brown; under wing coverts and axillaries light tawny buff, white near the edge of the wing.

*Length*.—6·2 inches; wing 1·9; tail 3·5; tarsus 0·95; culmen 0·6.

In the non-breeding plumage, according to Hume, the bill is paler, the white supercilium conspicuous, the lores white; chin, throat and upper breast nearly pure white; no mandibular stripes; forehead, crown, and occiput clear rufous; tail feathers much broader and unabraded.

*Hab.*—Khasia Hills.

Nothing is known of its habits nor of its nidification.

**338. *Suya albigularis*.** *Hume, Str. F.* 1873, p. 459; *id., Str. F.* 1880, p. 227; *Sharpe, Cat. B. Br. Mus.* vii, p. 182.—The WHITE-THROATED HILL WREN-WARBLER.

*Adult ♀*.—Above olive brown; lesser wing and median coverts like the back; greater coverts slightly more rufous on the outer margins; bastard wing dusky, narrowly edged with whitish on the outer web; primary coverts and quills dusky brown, margined with fulvous brown, a little more rufescent on the primaries; upper tail coverts like the back; tail feathers brown, edged with fulvous brown, the outer feathers narrowly tipped with fulvous; *crown of the head dull ashy grey*, slightly washed with olive; lores dusky, surmounted by a narrow white line; ear coverts dark ashy, the lower portion mottled with whitish shaft lines; cheeks white, slightly mottled with blackish tips to the feathers; sides of the neck dark ashy with a wash of olive; *throat, foreneck and breast yellowish white*, the feathers at the sides of the throat and chest margined with black forming a black line; abdomen whitish; sides of the body, flanks, thighs and under tail coverts fulvous brown, washed with olive; under wing coverts and axillaries pale tawny buff, whiter near the edge of the wing; bill greyish black; tarsus pale flesh colour; iris greenish grey.

*Length*.—5·5 inches; wing 2; tail 2·7; tarsus 0·85; culmen 0·5. (Sharpe.)

*Hab.*—British Burmah (?), ranging to Sumatra.

The evidence as to the identity of this species with *Suya superciliaris* is not satisfactory. Oates places it as a synonym of *superciliaris*, simply on the assertion of Mr. Hume that the Sumatra bird, which he named *S. superciliaris*, is identical with the present species. Mr. Sharpe, however, says that a skin of the species under notice was lent to him by Mr. F. Nicholson, and that it agrees with Hume's description. He does not follow Mr. Hume in uniting *superciliaris* and *albigularis*. *S. albigularis*, he says, "may have, to judge from analogy, a black-throated breeding dress; but in its non-breeding dress it is very distinct from the Burmese, *S. superciliaris*, which never has a grey head." In its habits *S. albigularis* does not differ from its congeners.

**339. *Suya superciliaris*, Anderson, P. Z. S. 1871, p. 212; Swinh. P. Z. S. 1871, p. 351; Hume and Dav., Str. F. 1878, vi. p. 350; id., Str. F. vii. p. 3; viii. p. 101; Sharpe, Cat. Br. B. Mus. vii. p. 182. *Suya erythropleura*, Wald. in Bl. B. Burm. p. 120; Hume, Str. F. v. p. 58; Hume and Dav., Str. F. vi. p. 351; Hume, Str. F. viii. p. 101.—ANDERSON'S HILL-WARBLER.**

*Adult ♀*.—Head uniform brown; back, rump, upper tail coverts and tail rufescent brown; rectrices tipped pale; supercilium broad, white, extending from the nostrils to the nape; lores black; ear coverts pale brown with whitish shaft streaks; chin, throat, breast and abdomen white, tinged with fulvous; sides of the body, vent, thighs and under tail coverts ferruginous; wings brown, edged with dark rufous; iris greenish brown; legs flesh colour; bill black above.

*Length*.—7 to 7·4 inches; wing 1·95 to 2; tail 3·8 to 4·5; tarsus 0·85; culmen 0·5.

*Hab*.—British Burmah. Nothing is known of its habits, nor of its nidification.

#### Gen. *Prinia*.—Horsf.

Bill of moderate length, stoutish, slightly deeper than broad at nostrils; culmen moderately curving, and not exceeding the length of hind toe and claw; rictal bristles well developed, 2 to 3 on each side; wings short and rounded, the first three primaries nearly equal; 4th and 5th generally longest; tail graduated, long, and of 10 feathers; tarsus long; claws moderately curved.

**340. *Prinia inornata*, Sykes, P. Z. S. 1837, p. 89; Jerd., Mad. Journ. xi. p. 4; Blyth, J. A. S. B. xiii. p. 376; Sharpe, Cat. B. Br. Mus. vii. p. 195; Oates, B. Br. Burm. i. p. 114. *Sylvia longicaudata*, Tick., J. A. S. B. ii. p. 576. *Prinia fusca*, Hodgs., Gray's Zool., Misc. p. 82; id., P. Z. S. 1845, p. 29. *Prinia adamsi*, Jerd., B. Ind. ii. p. 170, No. 533; Hume, Nests and Eggs, p. 335; id., Str. F. viii. p. 101. *Drymoipus inornatus*, Jerd., B. Ind. ii. p. 178, No. 543; Hume, Nests and Eggs, p. 346; Hume and Henderson, Lahore to Yarkand, pl. xvii. fig. 1; Brooks, Str. F. iii. p. 495; vii. p. 468. *Drymoipus longicaudatus*, Jerd., B. Ind. ii. p. 180, No. 544; Butler, Str. F. iii. p. 483; Brooks, Str. F. iv. p. 229; Hume, Str. F. iv. p. 407. *Drymoipus fuscus*, Hume, Nests and Eggs, p. 348. *Drymoipus terricolor*, Hume, Nests and Eggs, p. 349; Brooks, Str. F. iv. p. 229; Hume, Str. F. iv. p. 407. *Drymoipus longicaudus*, Hume, Nests and Eggs, p. 350. *Drymoeca longicaudata*, Bl. B. Burm. p. 118; Hume, Str. F. viii. p. 101. *Drymoeca fusca*, Hume, Str. F. viii. p. 101. *Drymoeca insularis*, Legge, Birds, Ceylon, p. 529, pl. xxv. fig. 2. *Prinia blanfordi*, Wald. in Bl. B. Burm. p. 118; Oates, B. Br. Burm. i. p. 112. *Drymoipus extensicauda*, (Swinh.), apud. Oates, Str. F. iii. p. 340. *Drymoeca blanfordi*, Hume and Dav., Str. F. vi. p. 349.—THE INDIAN WREN-WARBLER.**

*Winter*.—Upper plumage and tail rufous brown, the feathers on the crown dark centred—the tail feathers tipped pale ashy, with a black subterminal spot more distinct when seen from below; wings brown, edged with bright rufous; under surface of body fulvous, rather darker on the breast, flanks, and under tail coverts; thighs dark rufous. The young in first plumage are very rufous.

In breeding plumage, the upper surface is ashy or greyish brown, with indications of dark centres to the feathers, especially of the head; wings dark brown, edged with ashy white or brownish ashy; the primary coverts and quills with narrow rufous brown edges, and the inner secondaries with fulvous brown; tail pale brown with dusky cross bars under certain lights; all, except the centre feathers, white at the tip, and a tolerably well defined subterminal bar of blackish; lores, supercilium, cheeks and ear coverts white, the latter tinged with fulvous; under surface of the body pale yellowish buff, whiter on the throat; thighs tawny rufous; sides of upper breast ashy; axillaries and under wing coverts yellowish white; bill black; legs and feet pale yellowish fleshy; iris hazel brown (Brooks), orange yellow (Oates).

*Length*.—In summer 5·25; in winter 6 inches; wing 1·9 to 2; tail in summer 2·25; winter 3 inches; culmen 0·4; tarsus 0·8.

*Hab*.—The whole of India and Ceylon, ranging westward into Sind, eastward through Assam, the Burmese countries, Southern China, Formosa, and Hainan. Occurs throughout Sind, parts of Beloochistan and Southern Afghanistan, Punjab, N. W. Provinces, Oudh, Bengal, the Concan, Deccan, South India, Behar, Khandesh, Cachar, all Burmah and Nepaul. Oates says it is an amusing little bird. Perched on the summit of a stalk of elephant grass, it gives out its monotonous song, consisting of one note repeated some twenty times; then, with its ample tail held at right angles to the back, it skips away to the bottom of the next tuft only to reappear on the summit with its persistent little song. These birds seem hardly able to regulate their flight. They seldom fly more than twenty yards, and in this short space they appear in imminent peril of turning sundry somersaults, for the bill on these occasions points to the ground, while the tail bent well over the back is nearly horizontal. The Indian Wren-Warbler breeds wherever it is found. The nest is cylindrical or oval in shape, made entirely of fine grasses most strongly woven together; although the walls can be seen through, yet they resist any ordinary efforts to tear them asunder. Altogether the nest is a beautiful specimen of bird architecture. The eggs, usually 4 in number, are pale blue, marked with spots and scrawls of purplish brown.

**341. *Prinia sylvatica*, *Jerd.*, *Madr. Journ.* xi. p. 4; *Blyth*, *J. A. S. B.* xiii. p. 376. *Prinia neglecta*, *Jerd.*, *Madr. Journ.* xiii. p. 130. *Drymoica sylvatica*, *Blyth*, *J. A. S. Beng.* xvi. p. 458; *id.*, *Cat. B. Mus. As. Soc.* p. 142. *Drymoica jerdoni*, *Blyth*, *J. A. S. B.* xvi. p. 459. *Drymoica***

neglecta, *Gray, Gen. B.* i. p. 164; *Ball, Str. F.* ii. p. 218, *Drymoipus validus*, *Jerd. B. Ind.* ii. p. 182. *Drymoipus sylvaticus*, *Jerd. t. c.* p. 181. No. 545; *Hume, Nests and Eggs, Ind. B.* p. 351. *Drymoipus jerdoni*, t. c. p. 180; *Hume, Str. F.* 1873, p. 437; 1874, p. 453. *Drymœca valida*, *Blyth, Ibis.*, 1867, p. 302; *Hume, Str. F.* 1879, p. 101; *Legge, B. Ceylon.* p. 525. *Suya gangetica*, *Blyth, Ibis.*, 1867, p. 23; *Hume, Str. F.* 1877, p. 138; 1878, p. 6; 1879, p. 101. *Drymoipus rufescens*, *Hume, Nests and Eggs, Ind. B.* p. 351; *Butler, Str. F.* 1875, p. 484; *Hume, t. c.* p. 484; *Brooks, Str. F.* 1876, p. 229. *Drymoipus insignis*, *Hume, Nests and Eggs, Ind. B.* p. 351. *Drymœca rufescens*, *Hume, Str. F.* 1879, p. 101. *Drymœca neglecta*, *Hume, t. c.* p. 101; *Dav. and Wenden, t. c.* p. 407; *Vidal, Str. F.* 1880, p. 480.—The JUNGLE WREN-WARBLE.

*Breeding Plumage*.—Above dark brown, slightly paler on the lower back and rump; head and hindneck dusky ash brown; lores dull white; no supercilium present; ear coverts dusky brown, with obscure yellowish shaft lines; cheeks and under surface of body yellowish white, the abdomen pure white; sides of breast ashy; flanks fulvescent; thighs tawny brown; under tail coverts pale yellowish white; upper tail coverts and centre tail feathers pale reddish brown, crossed with obscure dusky bars under certain lights; the next feathers brown along the outer web and white on the inner, shaded more or less with pale sooty brown; external tail feather almost entirely white; lesser and median wing coverts, also scapulars, dark brown with ashy margins; greater coverts margined with reddish brown, also the quills. *In the winter plumage*, the tail feathers have no white on the inner web, but the external feathers are tipped with white, and have a tolerably distinct subterminal black bar; bill brown black; irides hazel; legs and feet yellowish.

*Length*.—6·3 to 6·5 inches; wing 2·55 to 2·6; tail 2·85 to 3·3 in winter plumage; tarsus 0·9; culmen 0·55.

*Hab.*—The whole of India, south of the Himalayas, and Ceylon. Recorded from the N. W. Provinces, Bengal, Assam, Concan, Deccan, Central and Southern India, Malabar Coast, Travancore, Nepaul and Cashmere.

*Habits* same as the last. Mr. Hume in his *Nests and Eggs, Indian Birds*, refers to the nidification of this species under all the synonyms quoted above. Generally it may be said that the nest is a deep cup, made of grass, well woven and neat, usually fixed in a thorny shrub, and lined with a little soft down. Eggs, 2 to 4, pale blue, with large purplish brown blotches, or unmarked.

### Gen. **Burnesia**.—*Jerd.*

Bill longer and more slender than in *Prinia*. Culmen exceeding the length of hind toe and claw; rictal setæ fine and minute, not reaching beyond nostrils; plumage streaked; tail, of 10 feathers, strongly graduated.

**342. *Burnesia flaviventris*, (Deless.), Sharpe, Cat. B. Br. Mus.** vii. p. 204. *Orthotomus flaviventris*, Deless., *Rev. Zool.* 1840, p. 101; *id. Voy. Inde*, part ii. p. 30. *Prinia flaviventris*, Blyth, *J. A. S. B.* xiii. p. 376; xvi. p. 455; *Bp. Consp.* i. 284; *Jerd. B. Ind.* ii. p. 169, No. 532; *Hume, Nests and Eggs*, p. 334; *Bl. and Wald., B. Burm.* p. 118; *Oates, Str. F.* v. p. 158; *Wardlaw-Ramsay, Ibis*, 1877, p. 466; *Hume and Dav., Str. F.* vi. p. 347; *Hume, Str. F.* viii. p. 101; *Doig, Str. F.* viii. p. 378; *Butler, Str. F.* ix. p. 386; *Oates, Str. F.* x. p. 219; *Oates, B. Br. Burm.* i. p. 111. *Prinia rafflesi*, Tweed, *Ibis*, 1877, p. 311, pl. vi. fig i.—The YELLOW-BELLIED WREN-WARBLER.

Forehead, crown, lores and ear coverts dark ashy; nape, back, scapulars, rump and upper tail coverts olive or yellowish green; tail brown, tinged with fulvous and margined with olive yellowish; quills and wing coverts brown, edged with olive or yellowish green; cheeks, chin, throat and breast white, tinged with yellowish; abdomen, sides of the body, vent, and under tail coverts bright yellow; thighs olive brown; under tail coverts, axillaries and under wing coverts pale yellow.

In new plumage the tail is tipped with pale yellow, which, however, soon wears off; mouth black; irides reddish yellow; eyelids plumbeous; bill black; legs orange fleshy; claws yellowish.

*Length*.—5·4 to 5·7 inches; wing 1·75 to 1·8; tail 2·5 to 3·0; tarsus 0·85; culmen 0·55. Females are a little smaller.

*Hab.*—Bengal and N. W. Provinces, and westward into Sind; eastward along the Terai to near Calcutta and the Bengal Soonderbuns, and through the Burmese countries to Malacca and Sumatra. (Sharpe). Extends also into Assam, and Sylhet. It does not occur in the Concan or Deccan, nor in Southern India. In Lower Bengal, Jerdon says it is abundant in high grass, especially near the Ganges. It makes its way through the thick reeds with great facility in seeking food. Oates says, at frequent intervals it mounts to the top of a tall reed and utters a short merry song, and then suddenly plunges into cover again with a peculiar long-sounding snap of the bill. During May and up to September it breeds among the tall elephant grass in which it lives, attaching its nest to two or three stems. The nest is an oval cup-like structure, made of vegetable down and the flowering end of fine grass, held together by other strong grass. Eggs brick red, generally four in number.

**343. *Burnesia socialis*, (Sykes), Sharpe, Cat. B. Br. Mus.** vii. p. 208. *Prinia socialis*, Sykes, *P. Z. S.* 1832, p. 89; *Jerd., Madr. Journ.* xi. p. 3; *id., Birds Ind.* ii. p. 170. No. 534; *Blanf., Ibis*, 1867, p. 464; *Butler, Str. F.* 1875, p. 479; *Fairbank, Str. F.* 1876, p. 259; *id.*, 1877, p. 406; *Vidal, Str. F.* 1880, p. 67. *Prinia stewarti*, Blyth, *J. A. S. B.* xvi. p. 455; *Jerd. B. Ind.* ii. p. 171, No. 535; *Hume, Str. F.* 1875, p. 480; *id. Str. F.* 1876, p. 497; 1878, p. 319; 1879, p. 101. *Prinia brevicauda*, Legge, *B. Ceylon*, p. 521.—The DARK-ASHY WREN-WARBLER.

Crown of the head and back, also upper tail coverts, dark slaty grey; lores and a streak above the eye buffy white; a dark spot in front of the eye; ear coverts and cheeks light tawny buff, slaty grey along the upper margin of the former; rump with a few tawny buff feathers on each side; lesser and median coverts like the back; greater coverts dusky brown, externally edged with light brown; tail feathers light brown, with a subterminal broad bar of black and tipped white; throat whitish, slightly washed with fulvous; lower throat, foreneck, chest, breast, sides of the body, flanks, thighs and under tail coverts tawny buff, paler on the latter; abdomen white; under wing coverts and axillaries light tawny buff, upper mandible black; lower, pale horny; legs dull yellowish brown; iris brown.

*Length*.—4·6 to 5 inches; wing 1·8; tail 1·8; tarsus 0·8.

The young bird is rufous brown above, a little more dusky on the head; rump and upper tail coverts brighter rufous; tail rufous brown, tipped with fulvous white, and with a subterminal black bar; an ochraceous superciliary streak present.

*Hab.*—Nepaul to Assam, Northern, Southern, Central and Western India generally. Recorded from north of the Godavery, the N. W. Provinces, at Agra, Cashmere, Punjab, the Deccan, Concan, Kattiawar, Saugor, the Neilgherries, Khandeish, and Dehra Doon.

Its habits are those of *Burnesia flaviventris*, except that, unlike *flaviventris*, it also frequents gardens, hedges, and vegetable crops. Eggs usually reddish white or brick red, with numerous darker red spots at the large end. Nest similar to that of *P. flaviventris*.

**344. *Burnesia lepida* (Blyth), Jerdon, B. Ind. ii. p. 185, No. 550.** *Prinia lepida*, Blyth, J. A. S. B. xiii. p. 376. *Drymoeca lepida*, Blyth, J. A. S. B. xvi. p. 460. *Burnesia gracilis* (Non. Rupp), Hume, Nests and Eggs, Ind. B. p. 356; *id.*, Str. F. 1873, p. 195; Adam, t. c. p. 382; Butler, Str. F. 1875, p. 485; Hume, t. c. p. 485; *id.* Str. F. 1878, p. 58; *id.*, Str. F. 1879, p. 102; Doig, t. c. p. 371; Murray, Hdbk., Zool., &c., Sind, p. 158; *id.*, Vert. Zool. Sind, p. 154. *Burnesia lepida*, A. Anderson, Ibis, 1872, p. 237. Brooks, Str. F. 1879 p. 476; 1880, p. 228; Sharpe, Cat. B. Br. Mus. vii. p. 211. *Drymoeca gracilis*, Blanf., East Pers. ii. p. 206. *Drymoipus lepidus*, Brooks, Str. F. 1876, p. 274.—THE STREAKED WREN-WARBLER.

Head, back, scapulars and upper tail coverts light olive grey, each feather mesially streaked with dusky brown; quills dusky brown, the feathers margined on their outer webs with the colour of the back; lores and supercilium whitish; tail olive grey, the feathers with distinct but obsolete transverse dusky bars, a subterminal dark spot on the inner web of each feather and tipped white; chin, throat, breast, belly and vent greyish white; bill dusky brown; the lower mandible pale fleshy; irides yellowish brown.

*Length*.—5·25 to 5·5 inches; wing 1·75; tail 2·5; bill at front nearly 0·5.

*Hab.*—Sind, Punjab, N. W. Provinces, Beloochistan and Persia; also Bengal, Deccan, Kutch, Kattiawar, Jeypore, Jodhpore, and North Guzerat. As in most parts of Western India, it is a resident in Sind, breeding from May to July.

Blyth has well described the habits of this species. Jerdon quotes him too. He says it is an inhabitant of low scrub, intermixed with tufts of coarse sedgy grass growing in sandy places by the river side, and it frequently flies out to feed among the herbage growing along the margin of the sand dunes. Tamarisk scrub, too, it delights to hop about in, also sedges, &c., growing at the seaside. It is a very difficult bird to shoot, as, like *Cettia cetti*, it is a great skulk, only occasionally coming up from among the roots and uttering a feeble song. It breeds amongst thickets of flexible grass, making a neat nest, almost always in the vicinity of water. Eggs spotted with red brown.

#### Gen. *Scotocerca*, *Sundev.*

General characters of *Burnesia*; tail nearly square and not graduated.

**345. *Scotocerca inquieta*.** *Rupp. Syst. Uebers.* p. 56; *Hengl. Ibis.*, 1869, p. 129; *id.*, *Orn. N. O. Afr.* i. p. 244; *Sund. Meth. Nat. Av. Tent.* p. 7; *Blf. Ibis.*, 1874; *id.*, *East Persia* ii. p. 207, pl. xiii. f. 2; *Str. F.* i. 200; ii. 329; *Murray, Hdbk., Zool., &c. Sind*, p. 159; *id. Vert. Zool., Sind*, p. 154. *Malurus inquietus*, *Rupp. Atl. Reise. N. Afr. Aves.* p. 55. *Curruca famula*, *Hemp. et Ehr. Symb. Phys. Aves.* fol. b. b. *Melizophilus striatus*, *Brooks, Proc. A. S. B.* 1872, p. 66; *id.*, *Ibis.*, 1872, p. 180; *Hume, Str. F.*, i. p. 200.—RUPPEL'S WREN-WARBLER.

#### PLATE.

Above light brownish grey, with narrow dark brown streaks on the head as far as the shoulders; a broad pale rufous brown supercilium; the cheeks and ear coverts are also of this colour, which extends down the sides of the neck and breast, becoming very pale and diluted under the wings and on the flanks; wings light brown; the edges of the quills and coverts greyish; tail a very much darker or rather blackish brown; the outer feather on each side is rather lighter, and tipped with white; the tail feathers are cross rayed, particularly the outer ones.

Lower surface of body, except sides of neck, breast, and flanks, white, with narrow brown streaks from chin to upper breast. These streaks are well defined in one specimen, and faint in another. Lining of wing and edge of the same reddish white. Bill dark brown, except basal half of lower mandible, which is dull brownish orange; legs and feet yellowish brown; claws brown.

*Length*.—4·55 to 4·8 inches; wing 1·93 to 1·95; tail 2·14 to 2·33; tarsus ·77 to ·82; bill at front ·35; from gape ·46. The bill is excessively like that of



*Scotocerca inquieta.*





*Melizophilus provincialis*; the wing also resembles that bird, except that the first primary is larger in proportion. Tail of similar form, but proportionately shorter; the outer feathers are  $\cdot 35$  shorter than the central ones; length 4.7, expanse 6.2, tail from vent 2, wing 1.9; wings, when closed, reach to within 1.6 of end of tail, bill at front 0.35, tarsus 0.8, weight 0.3 of an oz. (*Brooks*) *Ex. Str. F.* i. p. 200.

*Hab.*—Sind, Punjab, N. W. Provinces, Beloochistan, S. E. Persia, S. Afghanistan. Ruppel's Streaked Wren Warbler is a resident of the bare stony hills which run down from the Khyber Pass to the sea. It breeds from February to April, building in low thorny scrub a globular nest of thin dry grass stems, with an opening on the side and lined with fine down. Eggs pure to pinky white, speckled and streaked with bright red, most dense towards the larger end. Size 0.6 by 0.5 inch.

### Gen. *Sutoria*.—*Nicholson*.

Bill long and slender, rather wide at base; rictal bristles few; culmen exceeding the hind toe and claw in length; 5th and 6th quills longest and equal; tail of 12 feathers, strongly graduated or rounded, with the middle tail feathers elongated beyond the rest and pointed. The birds of this genus, also of *Orthotomus*, are remarkable for the beautiful nests they make.

**346. *Sutoria sutoria*, (Forst.), Sharpe, Cat. B. Br. Mus. vii. p. 215; Oates, B. Br. Burm. i. p. 107. *Motacilla sutoria*, Forst., Ind. Zool., p. 17. *Motacilla longicauda*, Gm. Syst. Nat. i. p. 954. *Orthotomus longicauda*, Moore, P. Z. S. 1854, p. 81; Ferd., B. Ind. ii. p. 165, No. 530; Hume, Nests and Eggs, p. 331; Hume, Str. F. iii. p. 135; Bl. and Wald., B. Burm. p. 120; Murray, Vert. Zool., Sind, p. 151. *Orthotomus edele* (Tem.) apud. Bl. and Wald., B. Burm. p. 120. *Orthotomus sutorius*, Sharpe, Ibis. 1877, p. 109; Oates, Str. F. v. p. 158; Hume and Dav., Str. F. vi. p. 345; Hume, Str. F. viii. p. 101; Scully, Str. F. viii. p. 305.—THE INDIAN TAILOR BIRD.**

Forehead and crown rufous; back of head and neck ashy, with a very faint rufous tinge; sides of nape with two dark brown setæ on each side; back, scapulars, rump and upper tail coverts yellowish green; edge of wing white; primaries and secondaries brown, edged with olive green, more distinct on the secondaries; all, for two-thirds their length, narrowly margined basally on the inner webs with whitish; under wing coverts buffy white; tail light brown, the central feathers greenish, and the lateral ones edged on the outer web with the same and tipped with white; chin, throat, breast, belly and under tail coverts white; the flanks cinereous; a dark spot on each side of the throat; bill horny brown, paler on the under mandible; legs brown; irides reddish yellow.

*Length*.—6 to 6·5 inches; wing 1·9 to 2; tail 3·5; bill at front 0·5.

*Hab.*—Throughout India to Nepaul and Cashmere, Ceylon and British Burmah. Common in the Deccan, Concan, Kutch, Kattiawar and North Guzerat, also the Punjab, N. W. Provinces, Oudh, Bengal; and Central India. In Sind it is common in all the open country studded with trees, and affects the acacias chiefly. Breeds in July and August. Eggs, 2 to 4, white, spotted with reddish brown, thicker and closer at the larger end. Nest made of leaves, stitched with cotton or fibre, and lined with wool and cotton.

Gen. *Orthotomus*.—*Horsf.*

General characters of *Sutoria*. *Middle tail feathers not elongated beyond the rest.*

**347. *Orthotomus atrigularis*, Tem. Pl. Col. livr. 101; Moore, P. Z. S. 1854, p. 78; Sharpe, Ibis., 1877, pp. 16, 113; Hume and Dav., Str. F. vi. p. 345; Hume, Str. F. viii. p. 101; Oates, Str. F. x. p. 219. *Orthotomus flaviviridis*, Moore; P. Z. S. 1854, p. 70; Wald. in Blyth, B. Burm. p. 121. *Orthotomus nitidus*, Hume, Str. F. ii. pp. 478, 507; iii. p. 525.**—THE BLACK-NECKED TAILOR BIRD.

*Lores and whole top of the head from the nostrils to the nape bright chestnut*; ear coverts rufous white; chin, throat and cheeks dull white, the black bases of the feathers showing through a good deal; *under side of neck black*, with a few narrow broken white bars; breast, abdomen and vent white; under tail coverts bright yellow; flanks white, suffused with yellow; back, scapulars; rump and upper tail coverts yellowish green, brighter on the latter; tail brown, edged externally with yellowish green; under surface of tail yellowish; under wing coverts pale yellow; edge of wing bright yellow; quills brown, margined externally with bright greenish yellow; the wing coverts brown, margined on both webs with greenish yellow; thighs yellowish tawny.

*The female is like the male*, but has no black on the throat, and the yellow on the edge of the wing is duller; generally the tail feathers show a distinct subterminal bar of blackish brown, which is scarcely visible in the males. Bill pale brown above, the lower mandible and gape flesh colour; irides orange brown; eyelids plumbeous; legs flesh colour.

*Length*.—4·5 inches; tail 1·6; wing 1·8; tarsus 0·8; bill from gape 0·7; culmen 0·6.

*Hab.*—Borneo and Sumatra, extending throughout the Malay Peninsula to British Burmah and to Eastern Bengal.

The Black-necked Tailor Bird is common in Southern Pegu, from Rangoon to up the Valley of the Pegu River. Mr. Davison found it in Tenasserim, and Colonel Godwin-Austen procured it in the hill tracts of Eastern Bengal. I

frequents thick forest and brushwood, and is not found much on cultivated land. It is strictly arboreal in its habits.

**348. *Orthotomus ruficeps*, (Lesson) Moore, P. Z. S. 1854, p. 79; Salvad. Ucc. Borneo, p. 248; Sharpe, Ibis., 1877, p. 114; Tweed. P. Z. S. 1878, p. 619; Hume and Davison, Str. F. 1878, p. 346; id. 1879, pp. 64, 101; Sharpe, P. Z. S. 1879, p. 341; id. Cat. B. Br. Mus. vii. p. 224. *Edela ruficeps*, Less., Tr. d' Orn. p. 309. *Orthotomus sericeus*, Tem. pl. col., text to 101.—THE RED-HEADED TAILOR BIRD.**

Forehead, crown and nape bright chestnut, also the lores; rest of sides of the face yellowish buff; upper margin of ear coverts bright chestnut like the crown; back, scapulars and rump ashy brown, inclining to ashy grey on the rump; upper tail coverts ashy rufous; tail chestnut; wing and coverts brown, edged with ashy or ashy grey, the quills very slightly washed with rufous towards the tip of outer web; cheeks, lower half of ear coverts and entire under surface of body yellowish buff; thighs chestnut; under wing coverts fulvous; iris yellow, salmon, or pale brown.

*Length*.—5·12 to 5·2 inches; tail 1·5 to 1·75; wing 1·82 to 2·0; tarsus 0·8 to 0·85. Females are very slightly smaller.

*Hab*.—The Indo-Malayan Islands, the Malay Peninsula, and the southern boundary of Tenasserim.

Of its habits nothing is on record; but there can be little doubt of its being the same as those of its other congeners.

#### Gen. *Phyllergates*.—Sharpe.

Tail of 12 feathers; the outermost much longer than in *Orthotomus*, and falling short of the remainder by 0·4 to 0·5 inches; bill more equilateral. Other characters as in *Orthotomus*.

**349. *Phyllergates coronatus*, (Ferd. and Blyth), Sharpe, Cat. B. Br. Mus., vii. p. 230. *Orthotomus coronatus*, Ferd. and Blyth, P. Z. S. 1861, p. 200. Ferd. B. Ind. ii. p. 168, No. 531; Hume, Nests and Eggs, Ind. B. p. 334; Wald. in Blyth, B. Burm. p. 121; Sharpe, Ibis., 1877, p. 115; Hume and Dav., Str. F. vi. p. 346; Hume, Str. F. viii. p. 101. *Phyllobates*\* *coronatus*, Oates, B. Br. Burm. i. p. 110.—THE GOLDEN-HEADED TAILOR BIRD.**

Forehead and fore part of crown bright orange, the nape greenish, the hind-neck and sides of neck grey; round the eye a ring of yellow feathers, also a short yellow supercilium; lores and sides of the face grey, the ear coverts whitish on their lower margin; cheeks, throat and foreneck white, rest of

\* Evidently a misprint for *Phyllergates*.

under surface bright yellow, including the thighs and under wing and under tail coverts; wings brown, edged with yellowish green; tail brown, narrowly edged with yellowish green, the outermost feather white along the entire inner web and the penultimate one for the greater part of its extent; legs and feet yellowish fleshy; upper mandible, tip and edges of lower mandible along commissure black; rest of bill yellowish fleshy; irides brown.

*Length*.—4 to 4·5 inches; wing 1·8 to 1·9; tail 1·7 to 1·8; tarsus 0·75 to 0·8; culmen 0·6.

*Hab*.—Eastern Himalayas. Common east of Tounghoo in British Burmah, also on the higher slopes of the Mooleyit in Tenasserim. It occurs in Darjeeling and in Nepaul, and in the hills of North Cachar and hill tracts of E. Bengal.

In habits it does not differ from the Indian Tailor Bird. Mr. Davison observes that they are not easily overlooked, as on the approach of danger they utter a low buzzing note of alarm.

#### Gen. **Graminicola**.—*Ferd.*

Bill moderate, rather stout and compressed; culmen curved; four rectal bristles on each side curving outwards; wings short and rounded; tail of 12 feathers, much graduated and broad; tarsi stout, of moderate length.

**350. *Graminicola bengalensis*, *Ferdon*, *B. Ind.* ii. p. 177; *Godw.-Austen*, *J. A. S. B.* xliii. p. 167; *Hume*, *Str. F.* 1879, p. 101; *id.*, 1880, p. 255. *Drymæca bengalensis*, *Hume*, *Nests and Eggs*, *Ind. B.* p. 345; *Sharpe*, *Cat. B. Br. Mus.* vii. p. 234.—THE LARGE GRASS-WARBLER.**

Crown of the head, occiput and nape black, dark or tawny brown, the feathers being with tawny or fulvous margins; hindneck much paler, the edges being buffy whitish; lores and eyebrow white, narrowly streaked with black; ear coverts and cheeks whitish; back also streaked, black, and tawny, the latter forming broad margins to the feathers; rump uniform tawny buff; the lesser, median and greater wing coverts tawny buff, streaked with blackish mesially; bastard wing and primary coverts dusky brown, edged with tawny; quills the same; upper tail coverts streaked black in the centre and edged with tawny rufous; tail blackish, the feathers washed with ashy olive on the margins, which gradually change to tawny on the extreme edge; under surface of body dull white, purer white on the abdomen; sides of the body, flanks, thighs and under tail coverts tawny buff, the sides of the breast with narrow black shaft lines; under wing coverts and axillaries pale tawny; bill reddish horny; tarsus fleshy yellow; iris yellow brown.

*Length*.—5·8 to 6·25 inches; wing 2·25; tail 3; culmen 0·5; tarsus 0·9.

*Hab*.—Eastern Bengal, extending into Assam. Affects high grass.

Gen. *Cisticola*.—*Kaup*.

Bill shorter and slightly more slender than that of *Phyllergates* and *Prinia*; rictal bristles two on each side and well developed; wings short; 1st quill short, 2nd generally equal to 7th and shorter than the 6th; tail of 12 feathers, shorter than in *Prinia*, broader than in both *Prinia* and *Phyllergates* and somewhat rounded; tarsus long; feet proportionally large, with the lateral toes nearly equal and the claws not so much curved as in *Prinia*.

The genus *Cisticola* forms a small group of small birds averaging in total length 3 to 4·5 inches, nearly all possessing a streaked plumage, and frequenting chiefly grass and reeds. In respect to the changes of plumage of this group, after examining all the available material in different Museums and in the collections of Naturalists, Mr. Sharpe gives his conclusions in Vol. VII. of the *Cat. B. Br. Mus.* p. 235. He says: "(1). The male and female are more or less different in the breeding plumage, the tendency being in the male to have a uniform coloured head, while the female's is striped. (2). The female's winter plumage resembles her summer dress, but is rather more mealy and the tail is longer. (3). In the autumn moult the male passes into a winter plumage, when he resembles the female. (4). The first winter plumage of the young bird resembles that of the old female, and that they have longer tails. (5). The male is always larger than the female." "There are," he adds, "probably some exceptions among the plain backed species." The range is given as the whole of Africa and Madagascar, South Europe and countries bordering the Mediterranean, eastwards to India, Ceylon, the Burmese countries and China, as well as Japan, the Malayan Peninsula, and throughout the whole of the Indo-Malayan sub-region.

**351. *Cisticola buchanani*, (Blyth), Sharpe, *Cat. B. Br. Mus.* vii. p. 246. *Dryinicea buchanani*, Blyth, *J. A. S. B.* xiii. p. 376. *Franklinia buchanani*, (Blyth) *Jerd. B. Ind.* ii. p. 186, No. 551; Blyth, *Ibis*, 1867, p. 24; Hume, *Nests and Eggs, Ind. B.* p. 359; *id.*, *Str. F.* 1873, p. 195; Adam, t. c. p. 382; Butler, *Str. F.* 1878, p. 183; Hume, *Str. F.* 1879, p. 102; Doig, t. c. p. 371; Murray, *Handbk. Zool., &c., Sind*, p. 159; *id.*, *Vert. Zool., Sind*, p. 155.—THE RUFOUS-FRONTED WREN-WARBLER.**

Forehead and crown pale rufous; back, scapulars, wings, rump and upper tail coverts greenish ashy; tail brown, all the feathers, except the two central ones, broadly tipped with white; chin, throat, breast, belly, vent and under tail coverts white; bill brown; lower mandible yellowish; legs dusky; irides orange.

*Length*.—5 to 5·25 inches; wing 2 to 2·25; tail 2 to 2·25.

*Hab.*—Western India, Sind, Punjab, N. W. Provinces, Oudh, Central and South India, Deccan, Kutch, Kattiawar, Jeypore, Jodhpore, and North Guzerat. Breeds from May to August.

Nest a roundish ball of dry grass, with a circular entrance on one side near the top. Eggs, 3 to 4, white, speckled all over with reddish brown and pale lavender, rather densely at the larger end. It is like the *Malacocercus*, nearly always seen in flocks of half a dozen or more flying from bush to bush, scarcely ever leaving a bush without having examined it from the top to the root stalks.

**352. *Cisticola gracilis*, (Franklin) Sharpe, Cat. B. Br. Mus. vii. p. 253; Oates, B. Br. Burm. i. p. 119. *Prinia gracilis*, Frankl. P. Z. S. 1831, p. 119; Jerd., Madr. Journ. xi. p. 3; *id.*, Birds Ind. ii. p. 172, No. 536; Hume, Nests and Eggs, Ind. B. p. 341; Wald. in Blyth, B. Burm. p. 119; Hume, Str. F. iii. p. 136; viii. p. 101; Braoks, t. c. p. 476. *Prinia hodgsoni*, Blyth, J. A. S. B. xiii. p. 376; Jerd., B. Ind. ii. p. 173, No. 538; Hume, Nests and Eggs., p. 342; Wald. in Blyth, B. Burm. p. 119; Hume, Str. F. iii. p. 136; Legge, Str. F. iii. p. 203; Oates, Str. F. vii. p. 480. *Prinia albogularis*, Wald., Ann. Nat. Hist., Series 4, vol. v. p. 219. *Drymœca gracilis*, Dresser, B. Eur. iii. p. 13. *Prinia rufula*, Godw.-Austen, P. Z. S. 1874, p. 47; *id.*, J. A. S. B. xliii. pt. ii. 165; Hume, Str. F. iii. p. 397; *id.* t. c. viii. p. 101.—FRANKLIN'S GRASS-WARBLER.**

Above, including the wings and tail, ashy grey, the wings edged with pale rufous; tail with a subterminal patch of brown on each feather *tipped with whitish*, and obsoletely across with dusky under certain lights; ear coverts whitish in front, greyish behind; lores and feathers above the eye dusky; cheeks, chin, throat, abdomen, vent and under tail coverts white or yellowish white; *breast ashy, forming a band across*; under wing coverts and axillaries white or yellowish white; sides of the body and flanks slightly tinged with ashy; bill black; legs and feet yellowish fleshy; irides reddish yellow.

*In winter plumage* the upper parts, including the tail, are rufous brown; the wings brown, broadly edged with rufous; the tail with subterminal dark patches and white tips; lower plumage white, tinged with fulvous; supercilium whitish.

*Length*.—3·7 to 4·2 inches; wing 1·75; tail 1·55 to 2·15; tarsus 0·7; culmen 0·5; from gape 0·55.

*Hab.*—Nepaul to Bhootan and throughout the more moist regions of India and Ceylon, ranging eastwards into the Burmese countries as far south as Pegu. It is also recorded from Malayana. It occurs also in the Concan, Deccan, and Bengal. In Central and Northern India, and on the Vindhian hills near Mhow and at Saugor, it is said to be not uncommon, also in the Nepaul Terai and lower hills. In Southern India it is recorded from the Malabar Coast, the Wynaad, the slopes of the Neilgherries and on the Eastern Ghauts, while in British Burmah it occurs throughout Pegu and Arrakan. It has been met with in Tenasserim also, and has been got in Karin by Captain Wardlaw-Ramsay.

Franklin's Wren-Warbler affects brushwood and the outskirts of tree forests where there is a plentiful undergrowth of grass. In such localities it is abundant. It breeds throughout the rains, making a nest very like that of the Tailor Bird but smaller, sewing the leaves together with cotton, and with the same material, wool and soft vegetable fibres lining the nest. The eggs, 3 to 4 in number, are pale blue with some brown or reddish spots.

**353. *Cisticola beavani*.** (Wald.) Sharpe, *Cat. Birds Br. Mus.* vii. p. 255. *Prinia Beavani*, Wald. *P. Z. S.* 1886, p. 551; *Beavan*, *Ibis*. 1867, p. 454; *Hume*, *Str. F.* iii. p. 136; *Oates*, *Str. F.* v. p. 158; *Hume and Dav.*, *Str. F.* vi. p. 349. *Hume*, *Str. F.* viii. p. 101; *Oates*, *B. Br. Burm.* i. p. 120. *Prinia rufescens*, Blyth, *J. A. S. B.* xvi. p. 456; *Blyth and Wald.*, *B. Burm.* p. 119; *Hume*, *Str. F.* iii. p. 136; *Anderson*, *Yunnan Exped.* p. 640; *Hume*, *Str. F.* viii. p. 101.—BEAVAN'S GRASS-WARBLER.

Above brown with tufts of fulvous white feathers on each side of the rump and indications of dusky cross bars on the lower back and rump; lesser and median wing coverts like the back; bastard wing and primary coverts dusky brown, with narrow rufous edgings; quills and tail the same, all, except the centre feathers of the tail, with a subterminal spot of black and a white tip; crown, occiput and nape slaty grey; lores white, also a small but distinct streak over the eye; ear coverts slaty grey with pale shaft lines; cheeks, throat and foreneck white, tinged rather with fulvous; breast fulvous, also the sides of the body and flanks; under tail coverts buffish white; under wing coverts and axillaries light tawny buff. (Sharpe.) Bill black; legs and feet pale or dark pinkish fleshy; irides orange brown, light wood brown, or reddish yellow (W. Davison.)

*Length.*—3·8 to 4 inches; wing 1·8; tail 1·65 to 1·5; tarsus 0·7 to 0·75; bill from gape 0·6. In winter the length is 4·6, the tail 2·1. The head and upper surface of the body is reddish brown; the tail more fufous; the under surface of the body yellower; and the eye brown, distinct in some skins.

*Hab.*—From Nepal through the Eastern Himalayas and the Burmese countries as far as Malacca. It has been recorded from Bhamo, Pegu, Tenasserim, the Arrakan Hills, Nepal, the Bhootan Doars, and Sikkim.

Abundant in grassy situations on the outskirts of wooded forests. Breeds in Burmah. Nest and eggs are similar to those of the preceding species.

**354. *Cisticola cinereicapilla*,** (Moore) Sharpe, *Cat. B. Br. Mus.* vii. p. 256. *Prinia cinereicapilla*, Moore, *P. Z. S.* 1854, p. 77 (ex. *Hodgs. MSS.*) *Ferd. B. Ind.* ii. p. 172, No. 537; *Hume*, *Nests and Eggs, Indian Birds*, p. 341; *Brooks*, *Str. F.* 1875, p. 242; *A. Anderson*, *P. Z. S.* 1878, p. 370; *Hume*, *Str. F.* 1878, p. 320; *id.* 1879, p. 101; *id.* 1880, p. 286.—THE GREY-HEADED OR HODGSON'S WREN-WARBLER.

*Crown of the head bluish grey*; occiput and nape, also the back and wing coverts, reddish brown; a line across the forehead, extending back in a narrow



eyebrow, pale tawny buff; an ashy spot in front of the eye; ear coverts tawny buff, the upper edge ashy; cheeks and under surface of body, also the thighs and under tail coverts, tawny buff; sides of the body and flanks rich fulvous; under wing coverts and axillaries pale tawny buff; bill black; legs pale horny; irides buff.

*Length*.—3·7 inches; wing 1·65; tail 1·95; tarsus 0·8; culmen 0·45.

*Hab.*—Himalayas from Nepaul to Gurgautri and Mussoorie.

Habits similar to those of the preceding species, also nest and eggs.

**355. *Cisticola poliocephala*, (A. Anderson) Sharpe, Cat. B. Br. Mus. vii. p. 257. *Prinia poliocephala*, A. Anders. P. Z. S. 1878, p. 370, pl. 19; Hume, Str. F. 1878, il. p. 319; id. Str. F. 1879, p. 101; id. 1880, p. 286.**—THE GREY-HEADED WREN-WARBLER.

Differs from *Cisticola Beavani* in having a slaty grey head and no supercilium.

*Length*.—3·8 inches; wing 1·75; tail 1·8; tarsus 0·8.

*Hab.*—Himalayas, Nepaul, and Kumaon.

**356. *Cisticola cisticola*, (Tem.) Sharpe, Cat. B. vii. p. 259; Oates, B. Br. Burm. i. p. 115. *Sylvia cisticola*, Tem. Man. d'Orn. i. p. 228; id. pl. col. 6, fig. 3. *Prinia cursitans*, Frankl. P. Z. S. 1831, p. 118. *Cisticola schœnicola*, Bonap. Comp. List. B. Eur. and N. Am. p. 12; Jerd. B. Ind. ii. p. 174, No. 539; Hume, Nests and Eggs, p. 343; id., Str. F. i. p. 439, iii. 137; Blyth, B. Burm. p. 119; Oates, Str. F. v. p. 158. *Salicaria bruniceps*; Tem. et Schleg. Faun. Jap. Aves. p. 134, pl. 20. *Cisticola munipurensis*; Godw.-Austen, P. Z. S. 1874, p. 47; id. J. A. S. B. xiii. pt. ii. p. 165, pl. ix., fig. 2; Hume, Str. F. iii. p. 397; viii. p. 101. *Cisticola cursitans*, Dresser, B. Eur. iii. p. 3; Hume, Str. F. v. p. 90; Hume and Dav., Str. F. vi. p. 349; Hume, Str. F. viii. p. 101. *Cisticola homalura*, Hume, Str. F. v. pp. 93, 350; viii. p. 101.**—THE RUFOUS GRASS-WARBLER.

Forehead rufescent; crown, hindneck and back dark brown, all the feathers margined and edged with rufous; rump and upper tail coverts rufous; primaries and secondaries dusky brown, edged on their outer webs with pale rufous; tertiaries dark brown, edged and tipped with pale rufous; edging near the tips and the tips whitish; tail dusky brown above, pale brown below, the feathers with a broad subterminal band of black tipped with white; the dark spots and white tips more distinct on the under surface; chin and throat whitish or rufescent white; breast and belly rufescent; vent and under tail coverts paler; bill dusky brown; the under mandible paler; irides brownish.

*Length*.—4·5 to 4·75 inches; wings 2 to 2·25; tail 1·75 to 2; bill at front 0·25.

*Hab.*—India generally to Nepaul; British Burmah, S. W. Europe, Africa, Egypt, Arabia, Deccan, Concan, Kutch, Kattiawar, Jodhpore, and N. Guzerat, also Bengal and Central India.

In Sind it affects the tamarisk jungles along the banks of the Indus, and breeds in July and August. Nest a deep purse, beautifully made of vegetable down, and placed in a tuft of soft grass. Eggs, usually five, white, speckled with reddish.

**357. *Cisticola exilis*, (Vig. and Horsf.) Sharpe, Cat. B. Br. Mus.** vii. p. 269. *Malurus exilis*, Vig. and Horsf. Trans. Linn. Soc. xv. p. 223. *Cisticola isura*, Gould, P. Z. S. 1847, No. 32. *Cisticola erythrocephala* (Ferd.) Blyth, J. A. S. B. xx. p. 523; Ferd. B. Ind. ii. p. 174, No. 540; Hume, Str. F. v. pp. 94, 351, 406; viii. p. 101. *Cisticola Tytleri*, Ferd. B. Ind. ii. p. 196, No. 541. *Cisticola delicatula*, Blyth, Ibis., 1870, p. 170. *Cisticola melanocephala*, Godw.-Austen, J. A. S. B. xliii. pt. 2, p. 165, pl. x. fig. 1; Hume, Str. F. viii. p. 101. The GOLDEN-HEADED GRASS-WARBLER.

*Adult* ♂. *In breeding plumage.* Forehead and crown golden fulvous; nape and hind-neck dusky fulvous; lower plumage pale yellowish buff; back and scapulars dark brown, each feather broadly edged with grey; wing coverts and quills brown, edged with rufescent grey; rump and the upper tail coverts fulvous; tail black, each feather narrowly tipped with ashy; centre of the abdomen and vent white.

*In the female in breeding plumage* the head is streaked with dark brown, and the tips to the tail feathers are about double the width they are in the male.

*In winter plumage* both sexes have much longer tails, the upper plumage is streaked with black and margined with rufous, the tail feathers are blackish along the shaft, and the tips are rufescent white. Iris light brown; upper mandible dark brown; lower mandible and gape fleshy pink.

*Length.*—4 to 4·8 inches; wing 1·75; tail 1·25 to 2; tarsus 0·7.

*Hab.*—Indo-Burmese countries, Eastern Bengal, and Western India, extending into China and Australia. Habits same as the last, also the mode of nidification, number, size, shape and colour of eggs.

### Sub-family.—TURDINÆ.

#### Gen. *Geocichla*.—Kuhl.

This genus, as now revised, includes a number of well-known and very familiar genera, such as *Zoothera*, *Oreocincla*, *Turdulus*, *Cichlopasser*, *Chamætylus* and *Psophocichla*, and forms a well-defined group of a number of birds commonly known as Ground-Thrushes. The characters of this group

as given by Seebohm in the Vth Vol. of the British Museum Catalogue are briefly these: "basal portion of the outside web of all the secondaries and of many of the primaries white, occasionally tinted with buff, but abruptly defined from the brown of the rest of the quills. Axillaries parti-coloured, the basal half white, the terminal half black, slaty grey or brown; under wing coverts the same, the basal portion, however, *being black and the terminal* half white. Young generally spotted on the back and breast. Bill moderately stout, somewhat wide at base, gently arched throughout, and moderately hooked at the tip; rectal bristles more or less developed; wing more or less rounded; tail of 12 to 14 feathers (14 in three species only); toes long; plumage generally soft and silky, usually mottled above and spotted beneath, and dull blue and ferruginous in colour. Peculiar to the Indian region."

*Twelve tail feathers.*

**358. *Geocichla dauma*, (Lath.) Seebohm, Cat. B. Br. Mus. vol. v. p. 154; Oates, B. Br. Burm. i. p. 6. *Turdus dauma*, Lath., Ind. Orn. i. p. 362. *Oreocinclla dauma*, Jerd. B. Ind. i. p. 533; Hume, *Nests and Eggs*, Ind. B. p. 236; Ball, *Str. F.* ii. p. 408; Hume, *Str. F.* iii. p. 115; Wald. in Blyth, *B. Burm.* p. 100; Hume and Dav., *Str. F.* vi. p. 256; Hume, *Str. F.* viii. p. 94; Bingham, *Str. F.* ix. p. 178.—THE HIMALAYAN GROUND-THRUSH.**

The plumage of the body above rich olive, each feather tipped black with an interior pale fulvous spot; scapulars the same, the black tipping larger and extending more on the inner than on the outer web; wing coverts dark brown or blackish brown, tipped with large fulvous spots; greater coverts to primaries blackish brown; the central portion of the outer webs tawny; quills brown, their outer webs suffused with tawny fulvous, the tertials partly tipped with the same; base of under webs fulvous white; central two pairs of tail feathers olive brown, the next two pairs tipped with white, the outer pair brown on basal half, whitish brown terminally, and margined with pale olive brown on the outer web; lores brown, shafted and tipped with white; cheeks and ear coverts white, terminated by black tips and with subterminal fulvous marks; chin white; throat and breast white, terminally fulvous and tipped with black crescentic marks; belly and flanks white, with subterminal fulvous spots and black tips; the centre of the abdomen pure white, also the under tail coverts, a few of the feathers of which are obsoletely tipped with brown; under wing coverts white, with a broad black band across the middle; thighs white, barred with brown; bill pale brown, the upper mandible and centre of lower dark brown; irides dark hazel brown; legs and claws fleshy white; 3rd and 4th primaries nearly equal and longest, *the second generally half an inch longer than the sixth.*

*Length.*—10·4 to 10·5 inches; wing 5·5 to 5·6; tail 3·75 to 3·8; bill at gape 1·2; culmen 1·0 to 1·1.

*Hab.*—The Himalayas from Kumaon to Assam, descending to the plains in Central and Southern India during winter, also in British Burmah.

The Himalayan or Small-billed Mountain-Thrush is said not to be uncommon in Lower Bengal also. It has been obtained in the N. W. Himalayas, at Almorah, Kumaon, Darjeeling, Kamptee, Nepaul, Cashmere, the Khasia Hills, Wynaad, the jungles south of Cuttack, on the Chilka Lake and in Saugor. It is not uncommon on the Pegu Hills, and also in the plains at Kyakpadein. Captain Ramsay got it at Tounghoo and Mr. Davison in Tenasserim. According to Jerdon it is very partial to bamboo jungles. It feeds on the ground; fruit and seeds, and also insects, being its food. It breeds in Cashmere during June and July. The eggs are broad ovals, somewhat compressed and pointed towards the small end. The ground colour is a pale greenish white, minutely and densely freckled with and mottled with pale brownish or reddish purple. Size from 1·2 to 1·26 in length, and in breadth 0·9 to 0·93.

**359. *Geocichla nilgiriensis*.** (*Blyth*) *Seebohm, Cat. B. Br. Mus.* v. p. 157. *Oreocinclla Neilgherriensis*, *Blyth, J. A. S. B.* xvi. p. 141; *Jerd. B. Ind.* i. p. 534, No. 372; *Hume, Str. F.* 1876, p. 399. *Turdus Neilgherriensis*, (*Blyth*) *Gray, Gen. B.* i. p. 254.—THE NEILGHERRY GROUND THRUSH.

Intermediate between *G. dauma* and *G. heinii*. Upper parts russet brown; head with subterminal chestnut brown spots; base of inside webs of secondaries and primaries white; abdomen and flanks as in *G. dauma*; 3rd, 4th and 5th primaries nearly equal and longest; 2nd primary between 5th and 6th.

*Length.*—10·75 inches; wing 5·5; tail 3·75; tarsus 1·2; bill at front 1·1.

*Hab.*—Neilgherries (South India). Occurs in the higher wooded tracts, and has a rich, charming song. In Travancore Mr. Bourdillon says it is rather scarce and solitary, and is found in thick jungle from the summit of the hills down to 2,000 feet elevation.

**360. *Geocichla mollissima*,** (*Blyth*) *Seebohm, Cat. B. Br. Mus.* v. p. 159. *Turdus mollissimus*, *Blyth, J. A. S. B.* xi. p. 188; *Gray, Cat. Mam., &c. Nepaul Coll. Hodgs.* p. 80. *Oreocinclla rostrata*, *Hodgs. Ann. Nat. Hist.* xv. p. 326. *Oreocinclla mollissima*, *Blyth, J. A. S. B.* xvi. p. 141; *Jerd. B. Ind.* i. p. 533, No. 370; *Godw.-Austen, J. A. S. B.* xxix. p. 103; *Hume and Dav., Str. F.* vi. 256.—THE SHORT-TAILED OR PLAIN-BACKED OREOCINCLOID GROUND-THRUSH.

Upper parts brownish olive; inside web and tip of primary coverts black; lores buff; quills brown, margined exteriorly with ochraceous brown; four central tail feathers olive brown; three next on each side dark brown, the outer ones dark brown at base, fading to pale brown, with an obscurely defined white wedge-shaped terminal mark; ear coverts and lower surface generally white, with an ochraceous tinge on the breast and flanks; each feather with a

transverse terminal crescent-shaped black band nearly obsolete on the chin and centre of belly; under tail coverts white, with obscure brown edges; axillaries white, tipped with black; under wing coverts white, with black bases; basal half of inner web of secondaries and of many primaries buff. Bill dark brown, paler at base of under mandible; 3rd and 4th primaries nearly equal and longest; 2nd between 5th and 6th and 7th.

*Length.*—9·5; wing 5·1 to 5·6; tail 4 to 4·1; culmen 0·92 to 1·1; tarsus 1·25 to 1·45.

*Hab.*—The Himalayas from Nepaul to Darjeeling and Sikkim, descending into the valleys during winter.

The Plain-backed Mountain-Thrush feeds like its other congeners on the ground in small parties on the summit of some high hill, flying into brushwood when disturbed. Food—insects and berries.

**361. *Geocichla dixon*, Seebohm, Cat. B. Br. Mus. v. p. 161; Oates, B. Br. Burm. i. p. 7.—DIXON'S THRUSH.**

Similar to *G. mollissima* except that the tail is longer, 4·3 to 4·7 inches; the general colour of the upper parts olive brown instead of russet brown, and the greater and median wing coverts dark brown, edged with buffy brown and tipped with large fan-shaped buff spots; iris brown; bill brown; legs dull brownish yellow.

*Length.*—10·5 inches; wing 5·5; tail 4·7; tarsus 1·45; bill from gape 1·2.

*Hab.*—The Himalayas, where it is said to breed, to Darjeeling. Descends to the plains during winter as far as Central India. Occurs also in Nepaul and Tenasserim.

### Group.—ZOOTHERÆ.

**362. *Geocichla monticola*, (Vigors) Seebohm, Cat. B. Br. Mus. v. p. 161. *Zoothera monticola*, Vig. P. Z. S. 1831, p. 172; Gould, Cent. Him. B. pl. xxii.; Blyth, J. A. S. B. xvi. p. 140; Ferd. B. Ind. i. p. 509, No. 350; Godw.-Austen J. A. S. B. xli. pt. 2. p. 142; Blanford, J. A. S. B. xli. pt. 2, p. 49.—THE SAW-BILLED GROUND-THRUSH.**

Upper parts dark olive brown, each feather obscurely barred with slate grey; wings and wing coverts darkish brown, with obscure paler tips to the median and greater coverts; tail brown, the outermost feathers obscurely tipped with white; cheeks, sides of the neck and breast brown, with obscure subterminal dark spots on each feather; chin and throat white with dark brown fan-shaped terminal spots on some of the feathers; flanks brown, the feathers obscurely barred with dark brown; centre of belly white; under tail coverts dark brown, tipped with white; axillaries basally white, terminally dark brown, and narrowly edged with white; under wing coverts dark brown basally and

white terminally; the basal half of secondaries (inner webs) and of many primaries buffish white; 4th primary slightly the longest, 2nd between the 6th and 7th; bill abnormally long, longer than the tarsus; both mandibles obscurely serrated; rictus strongly bristled; legs and feet darkish brown; irides dark brown.

*Length*.—10 to 12 inches; wing 5·1 to 6·0; tail 3 to 3½; culmen 1·3 to 1·6; tarsus 1·25 to 1·4.

*Hab*.—Throughout the Himalayan Range to Assam. Common from Mussoorie to Darjeeling. Recorded from Cashmere, Nepaul, Simla, Bootan, Mussoorie, Assam, and Darjeeling. It is said by Seebohm to breed in the Himalayas.

**363. *Geocichla marginata*, (Blyth) Seebohm, *Cat. B. Br. Mus.* v. p. 162. *Zoothera marginata*, Blyth, *J. A. S. B.* xvi. p. 141, n.; *Hume, Nests and Eggs*, p. 226; *Blyth and Wald. B. Burm.*, p. 100; *Hume and Dav., Str. F.* vi. p. 246; *Hume, Str. F.* viii. p. 94; *Bingham, Str. F.* viii. p. 195; *Oates, B. Br. Burm.* i. p. 8.—The LONG-BILLED GROUND-THRUSH.**

Upper plumage rufescent olive brown, dark and dull on the head, bright on the outer webs of the feathers of the wings, the coverts with buff tips; inner webs of quills and primary coverts dark brown; lores and sides of the head mixed white and black, the black preponderating on the ear coverts; chin, throat and a line down the neck pure white, bounded on each side by a brown moustachial line; breast and abdomen brown, each feather with a large white spot in the centre; sides of breast, body and flanks brown, with broad white shaft lines, becoming broader towards the abdomen; under tail coverts buffy white, broadly margined with brown; axillaries buffy white at base and brown at tips; tail uniform rufescent olive-brown; bill dark or pale bluish brown; legs and feet the same; irides deep hair-brown. (*Dav. ex. Oates*).

*Length*.—10 inches; wing 4·9; tail 3; tarsus 1·1; bill from gape 1·5.

*Hab*.—The Himalayas from Sikkim to Assam. It is also found in the north and central portions of the Tenasserim Provinces, as well as Siam. Recorded from Afghanistan. Oates says it appears to be sparingly distributed over the whole of British Burmah. It has been got on the Arrakan Hills, also in Karin, while in Tenasserim Davison met with it near Pahpooon and on the Mooleyit Mountain. Captain Bingham has recorded it from the Thoungyeen Valley.

Wherever it occurs it is probably a resident. Its food consists of insects and berries. The eggs are said to be like those of *Pitta*, white, with a few rusty brown spots.

**364. *Geocichla cyanonotus*, (Fard. and Selby) Seebohm, *Cat. B. Br. Mus.* v. p. 172. *Turdus cyanotus*, Fard. and Selby, *Ill. Orn.* i. pl. xlv;**

*Sykes, P. Z. S.* 1832, p. 87. *Geocichla cyanota*, (*Ferd. and Selby*) *Blyth, J. A. S. B.* xvi. p. 145; *Ferd. B. Ind.* i. p. 517, No. 354; *Hume, Nests and Eggs, Ind. B.* p. 229; *Ball, Str. F.* 1874, p. 407; *Hume, Str. F.* 1876, p. 398.—The WHITE-WINGED GROUND-THRUSH.

Head, nape, hindneck and sides of the neck ferruginous; general colour of the rest of the upper parts dull cyaneous or pale slaty grey, each feather rather darker in the centre. Cheeks, chin, throat and neck white; breast, abdomen and flanks bright ferruginous or orange chestnut; vent and under tail coverts white; lores white. A dark brown band extends from the eye half way to the shoulder; behind this is a white band extending nearly to the shoulder; behind this again is another shorter dark brown band, leaving a small white spot at the junction of the ear coverts and the nape. Quills and innermost secondaries brown with the unemarginated portions of the outside webs slate grey; median wing coverts broadly tipped with white; greater wing coverts and primary coverts dark brown on inside web and slate grey on outside web; axillaries white basally, dark slate grey terminally; under wing coverts dark slate grey basally, terminally white; bill dark brown; legs and feet flesh colour; irides dark brown.

*Length*.—8·5 to 8·6 inches; wing 4·3; tail 2·8 to 3·1; culmen 0·8 to 0·95; tarsus 1·15 to 1·2. The female differs in having the colours less pure.

*Hab*.—Central, Southern and Western India.

The White-winged Ground-Thrush has not been found outside the above limits. Jerdon says "it is peculiar to the jungles of Southern India, extending as far as Goomsoor on the east coast and to Bombay on the west side of India. It is most abundant in the forests of Malabar and Wynaad, but it is not rare in the jungle of the Eastern Ghauts. It has also been got in North Canara. Recorded from Travancore, the Neilgherries, Matheran, Malabar Coast, and Behar. It prefers bamboo jungles, feeds on the ground, and generally perches low. Its food consists of insects, as ants, cockroaches and beetles, and not unfrequently stony fruit. Mr. Ward procured the nest in North Canara, made of roots and grass, placed at no great height from the ground. The eggs, three in number, were pale bluish, speckled with brown.

**365. *Geocichla citrina*, (Lath.) Seebohm, Cat. B. Br. Mus. v. p. 172.** *Turdus citrinus*, *Lath. Ind. Orn.* i. p. 350. *Geocichla citrina* (*Lath.*) *Ferd. B. Ind.* i. p. 517, No. 355; *Hume, Nests and Eggs, Ind. B.* p. 229; *Blyth, B. Burm.* p. 99; *Oates, Str. F.* v. p. 151; *Hume and Dav., Str. F.* vi. p. 250; *Hume, Str. F.* viii. p. 94; *Legge, B. Ceylon* p. 457; *Scully, Str. F.* viii. p. 283; *Hume, Str. F.* ix. p. 101; *Oates, B. Br. Burm.* i. p. 3. *Geocichla andamanensis*, *Wald. Ann. and Mag. Nat. Hist.*, 1874, p. 56. *Geocichla albogularis*, *Blyth, J. A. S. B.* xvi. p. 146. *Geocichla innotata*, *Blyth, J. A. S. B.* xv. p. 370.—The ORANGE-HEADED GROUND-THRUSH.

Whole head, neck, breast, belly and flanks orange buff, darkest on the head and albescent on the chin and throat; vent, thighs and under tail coverts pure white; back, rump, upper tail coverts, scapulars and smaller wing coverts dark bluish grey; some of the wing coverts near the edge of the wing tipped white, the larger wing coverts, primaries and primary coverts dark brown, exteriorly edged with ashy; inner webs of primaries white at their bases; under wing coverts dark slate grey basally and white terminally; the bases of the secondaries and some of the primaries white on their inner webs; two centre tail feathers and most of the outside web of the remainder dark slate grey, the rest dark brown; outermost feathers generally paler at tip and frequently tipped with white; bill dark brown or horny black; iris dark hazel; legs and feet fleshy.

*Length*.—8·5 to 8·8 inches; wing 4·6; tail 3; tarsus 1·3; bill from gape 1·1

Young birds differ in having the feathers of the upper parts edged with pale yellowish instead of ashy.

*Hab*.—Throughout the whole range of the Himalayas from Nepal to Assam up to about 5,000 feet elevation, descending to the plains during winter, being then found in Northern, Central and Southern India, and Burmah, straying also as far south as Ceylon. Jerdon says it is found in most of the forests and well-wooded districts of Northern and Central India, extending rarely as low as N. lat. 16°. In the neighbourhood of Calcutta it is not uncommon, also at Darjeeling and in the warmer valleys in Sikkim. In British Burmah, according to Oates, it is a constant resident.

It keeps to woods and shady gardens, and, like the last, prefers bamboo jungle. Like others of its kind, it feeds on the ground. It is not a shy bird, and does not retreat far from villages. It is said to have a pretty song during the breeding season, but otherwise is silent. The nest is usually built in the forks of high trees, made of grasses, moss, stalks, and roots. Eggs, 3 to 4, pale greenish, freckled with rufous, forming a patch at the larger end. Size 0·8 to 1·1 inch in length by 0·7 to 0·82 in breadth.

It will be seen that *Geocichla andamanensis*, *albogularis*, and *innotata* are not admitted in this work, these being, in my opinion, only varieties of *G. citrina*. All agree generally in the wing formula of *citrina*, and the only difference upon which these species have been founded is the tone of colouration of the upper plumage and scarcely appreciable difference in size. Considering that the autumnal and first year plumage of the majority of the species of *Geocichla* are either quite unknown or very little known, and that the species have been founded on single or two skins, it is open to doubt whether these Andaman and Nicobar skins are not of birds in partial autumnal moult. Presumptions cannot be tolerated in making new species.



**366. *Geocichla wardi*, (Ferd.) Seebohm, Cat. B. Br. Mus. v. p. 178.** *Turdus wardi*, Ferd. J. A. S. B. xi. p. 882. *Merula wardi*, (Ferd.) Blyth, J. A. S. B. xvi. p. 146. *Cichloselys wardi*, (Ferd.) Bp. Compt. Rend. xxxviii. p. 5; Hume, Nests and Eggs, p. 231. *Turdulus wardi*, (Ferd.) Ferd. B. Ind. i. p. 520, No. 357. *Turdus* (*Cichloselys*) *wardi*, Brooks, Str. F. 1875 p. 237. *Oreocinclla pectoralis*, Legge, Str. F. 1876, p. 244; Hume, Str. F. 1877, p. 202.—WARD'S PIED GROUND-THRUSH.

Upper parts black; whole head, neck, lores, chin, throat, breast and ear coverts black; wing coverts, innermost secondaries, upper tail coverts and most of the tail feathers more or less conspicuously tipped with white; quills dark brown, their outer webs black and edged with white for some distance, where they cease to be emarginated; under surface white, the flanks with broad subterminal irregularly crescentic black bands; base of axillaries white, terminally black; bill and legs yellow; irides brown; supercilium white.

*Length*.—8 to 9·6 inches; wing 4·6; tail 3·6; bill at front 0·75; culmen 1·1.

The female is olive brown above; the supercilium and spots on the wing coverts are fulvous white; throat and breast brownish white.

*Hab.*—The Himalayas, wintering in the plains of India; southwards as far as Ceylon. Occurs in Southern India on the Neilgherries, also in the Carnatic and Nepaul, the Punjab, and N. W. Provinces (Mussoorie, Nyeetal. At Mussoorie Captain Hutton found the nest early in April. It breeds in June and July, making a pretty nest of green mosses and fibres in the fork of trees. The eggs are usually 4 in number, pale verditer, spotted with sanguine brown. Size 1·06 inches in length by 0·76 in breadth. It is very regular, somewhat elongated, oval, only slightly compressed at one end.

**367. *Geocichla sibirica*, (Pall.) Seebohm, Cat. B. Br. Mus. v. p. 180;** Oates, B. Br. Burm. i. p. 4. *Turdus sibiricus*, Pall., Reis. Russ. Reich, iii. p. 694; Gmel. Syst. Nat. i. p. 815; Lath. Ind. Orn. i. p. 333; Tem. Man. d'Orn. iii. p. 98; Gould, B. Eur. ii. pl. 82; Seebohm, Ibis, 1879, p. 5. *Oreocinclla inframarginata*, Blyth, J. A. S. B. xxix. p. 106; Beavan, Ibis, 1868, p. 132; Ball, Str. F. 1873, p. 70; Hume, Str. F. viii. p. 94. *Turdulus davisoni*, Hume, Str. F. v. pp. 63, 136. *Turdulus sibiricus*, Hume and Dav., Str. F. vi. pp. 255, 513.—THE SIBERIAN GROUND-THRUSH.

*Male.*—The whole upper plumage, with the chin, throat, breast, flanks, sides of the body and sides of the abdomen deep slaty grey, each feather margined paler; centre of the abdomen and vent white; under tail coverts slaty, tipped with white; axillaries white, tipped with slaty; lores and sides of the head almost black; a distinct white supercilium reaching to the nape; quills dark brown, all, except the first two, with a large white patch on the inner web; tail dark brown, the outer feathers tipped with white.

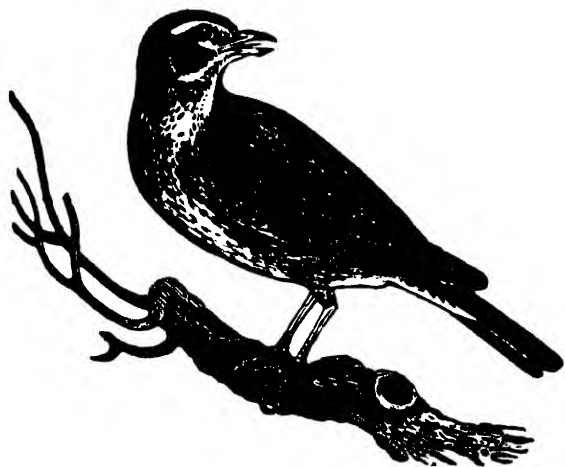
*Female*.—Has the whole upper plumage olive brown, tinged with slaty and rufescent on the outer webs of the wings and their coverts; tail with the three outer feathers on each side tipped white; supercilium, chin and throat buff; a dark stripe on each side of the chin; sides of the head mixed brown and buff; lower plumage pale buffy white, each feather with a broad tipping of brown; axillaries white, tipped with brown; under tail coverts and vent white, splashed with brown. (Oates.) Bill black; irides brown; legs yellow.

*Length*.—9 inches; wing 4·8; tail 3·4; tarsus 1·1; bill from gape 1·1.

*Hab*.—China, Burmah, Sumatra and Java during winter, and, according to Seebohm, has once occurred on the Andaman Islands. It summers in Siberia, breeding in the valleys of the Yenasey and the Lena between lat. 67° and 68°, and also near Yokohama in Japan. In Burmah it was got in Karin at an elevation of 2,500 feet. Davison says it goes about in flocks, as many as sixty being seen together. They generally frequent large trees. Like most of the tribe, the Siberian Ground-Thrush feeds on the ground. It is said, however, to be a very shy bird.

#### Gen. *Turdus*.—*Linn*.

The revision of this group of birds by Seebohm in the fifth volume of the British Museum Catalogue includes in it the following genera, some long since obsolete. Of the more familiar ones to Indian naturalists may be mentioned *Ixocossyphus* (Kaup), *Planesticus* (Bonap.), and *Malacocichla* (Gould). Although connected very closely with *Merula*, it was advisable to keep the latter distinct, as, besides geographical range, the large number of species which the two genera comprise is an additional argument for the division. The genus *Turdus* is characterized thus: Bill moderately stout, straight at the base, and gently curving at the tip, somewhat wide at the base, and furnished with short rictal bristles. Wing flat and pointed, the 3rd and 4th primaries nearly equal, the 2nd a little shorter; the bastard primary rarely extends beyond the primary coverts. Tail of 12 feathers nearly even; tarsus short; feet moderate. The males resemble the females in their plumage, and the throat, breast and flanks are more or less spotted at all ages. The young are spotted on the back and breast. Food—insects and berries. The species found in India belong to the palæartic region and are not residents.

*Turdus iliacus.*

**368. *Turdus iliacus*, Linn. Syst. Nat. i. p. 292; *Jerd. B. Ind. i.* p. 332.**—The RED-WING THRUSH.

Above olive brown, darker, and suffused with russet on the forehead and crown; supercilium whitish; edges of the wing coverts and quills tipped pale; under parts pale buff, fading to white on the belly and ferruginous on the flanks; chin and throat unspotted; cheeks, upper breast, lower throat and upper flanks with dark brown terminal spots; under tail coverts white, the basal half of each feather margined with brown; axillaries and under wing coverts rich chesnut; bill dusky; legs yellow brown; irides brown.

*Length*.—8·5 to 9 inches; wing 4·75; tail 3·25; culmen 0·7 to 0·85; tarsus 1·25.

*Hab.*—Atlantic to the Pacific. Winters in the British Isles and Western and Southern Europe, occasionally crossing the Mediterranean into Algeria, and wintering in Persia, Turkestan, and N.-W. India; but is rare in the latter.

Of the *habitus* of this bird nothing need be said, as without its mention no list of British birds would be complete.

**369. *Turdus viscivorus*, Linn. Syst. Nat. i. 291; Scop. Ann. i. p. 132; Lath. Gen. Syn. Suppl. i. p. 285; Tem. Man. d'Orn. p. 86; Sharpe and Dresser, B. Eur. pt. vi.; Shelly, B. Egypt, p. 65; Blansf. East Pers. ii. p. 157. *Turdus hodgsoni*, Homeyer, Rheu. ii. p. 150; *Jerd. B. Ind. i.* p. 531; Hume, Nests and Eggs, Ind. B. p. 236; Seebohm, Cat. B. Br. Mus. v. p. 195.**—The MISSEL THRUSH.

Upper parts greyish brown or pale earthy brown, the feathers of the rump edged with ochraceous; lores and the feathers behind the eye greyish white;

ear coverts yellowish white, tipped with dark brown; supercilium none; wings like the back greyish brown or pale earthy brown ochraceous on the outside edges of the secondaries; median wing coverts with conspicuous greyish white tips; greater wing coverts and innermost secondaries with obscure pale tips; tail brown, the outer feathers conspicuously tipped with whitish; under surface of body pale buff, darker on the breast and flanks, each feather with a black terminal spot; under tail coverts margined with brown on the basal half; chin and centre of belly with obscure spots, or wanting them; axillaries and under wing coverts white; inner margins of quills nearly white. Bill dark brown, yellowish at base of under mandible; legs and feet yellowish brown.

The female is like the male, but paler in colour above and below.

*Length*.—10.6 to 11 inches; wing 6.5 to 6.55; tail 3.9 to 4.75; culmen .088 to .11; tarsus 1.25.

*Hab.*—Europe and Africa, extending to the Arctic circle; also Turkestan, the North-West Himalayas, and Southern Persia. Recorded from Kumaon, Almorah, Nepal, and Kotegurh. Breeds in Central Europe, and in the valleys of the Beas and Sutlej at from 6,000 to 8,000 feet elevation during April, May, and June. Nest, a large deep cup fixed in the fork of a tree. The core is said to be composed of clay and grass stems, founded on a lot of dry leaves, fern, &c., with an external coating of moss and lichen, while internally there is a thick lining of soft grass. Eggs moderately broad ovals, the ground colour varying from pale pink to a pale greenish grey, thickly speckled and spotted with brownish red and pale purplish pink. Size 1.17 to 1.26 inch in length and .088 to .093 inch in breadth.

**370. *Turdus pilaris*, Linn., *Syst. Nat.* i. p. 291; *Scop. Ann.* i. p. 133; *Lath. Gen. Syn. Suppl.* i. p. 287; *Sharpe and Dresser, B. Eur.* p. 379; *Seeborn, Cat. B. Br. Mus.* v. p. 206; *Ferd. B. Ind.* i. p. 530.**—The FIELD-FARE.

Forehead and crown slate grey, each feather narrowly margined with brown and with concealed dark centres; nape pale slate grey; back and scapulars dark chestnut brown with obscure pale centres to most of the feathers; rump slaty grey; lores and ear coverts blackish; supercilium very faint buffish; wings and wing coverts dark brown with very narrow pale margins; primaries, primary coverts and a few of the outside wing coverts with slate grey on all or part of the outer webs; secondaries and the innermost wing coverts with chestnut brown on all or part of the outer webs, and generally paler and greyer towards the tips; tail dark brown, slightly paler at the tips of the outside feathers; chin, throat and breast buff, each feather having a nearly black fan-shaped terminal spot nearly obsolete on the chin, narrow on the throat, but very conspicuous on the cheeks and breast; the

sides of the breast and flanks are nearly black, each feather broadly fringed with white; belly white; under tail coverts white, the basal half margined with brown; axillaries and under wing coverts white; inner margin of quills pale brown; bill yellow in summer, brown in winter.

*Length*.—11 inches; wing 5·2 to 5·9; tail 3·85 to 4·3; culmen 0·84 to 0·92; tarsus 1·2 to 1·3.

*Hab.*—Same as the last.

#### Gen. *Merula*.—*Leach*.

Bill slightly more lengthened generally than in *Turdus*, compressed at tip and notched. Nostrils plumed at base; rictal bristles short and strong; feet strong. Distributed in greater number in the neotropical than in the Australian, oriental, or palæarctic regions.

**371. *Merula albocincta*, (Royle) Blyth, *J. A. S. B.* xvi. p. 148; Gould, *B. Asia* ii. pl. 76; *Jerd. B. Ind.* i. p. 526, No. 362; *Godw.-Austen*, *J. A. S. B.* xiv. pt. 2, p. 196. *Scully, Str. F.* viii. p. 285; *Seebohm, Cat. B. Br. Mus.* v. p. 245. *Turdus albocinctus*, *Royle, Illustr. Him. Bot.* p. lxxvii. pl. viii. fig. 3.—The WHITE-COLLARED OUZEL.**

*Male*.—Dingy black, slightly glossed above; neck with a nearly white collar; under surface a dark sooty brown; vent feathers white-shafted; bill and orbits deep yellow; legs dingy; irides dark brown.

*Female*.—Has the white collar pale grey on the hind neck; the upper parts are dusky brown; under parts brown, obscurely barred with grey.

*Length*.—11 inches; wing 5 to 5·8; tail 4 to 4·55; culmen 1·15; tarsus 1·4.

*Hab.*—The Himalayas, from Nepaul to Assam, breeding at high elevations, and descending lower in the valleys during winter. It has been obtained in Sikkim and near Darjeeling, also in Bengal, Assam, Nepaul and Simla.

**372. *Merula boulboul*, (Lath.) Blyth, *J. A. S. B.* xvi. p. 147; Gould, *B. Asia* ii. pl. 77; *Jerd. B. Ind.* i. p. 525; *Hume, Nests and Eggs, Ind. B.* p. 234; *Seebohm, Cat. B. Br. Mus.* v. p. 248. *Lanius boulboul*, *Lath. Ind. Orn.* i. p. 80. *Turdus pœcilopterus*, *Vig. P. Z. S.* 1831, p. 54.—The GREY-WINGED OUZEL.**

Upper parts black; the tips of the median wing coverts, the outer webs of the greater wing coverts and a broad margin to the innermost secondaries greyish white; under surface paler black; the axillaries, under wing coverts, belly, flanks and under tail coverts narrowly margined with greyish white, or the axillaries and under wing coverts, sometimes one or both, greyish white; bill yellow; legs, feet and claws yellow; orbits yellow.

*Length*.—10·25 to 10·5 inches; wing 5·5; tail 4; culmen 0·9 to 1·1; tarsus 1·25 to 1·4.

The female is olive brown, and the greyish white margins are brownish white.

*Hab.*—Throughout the Himalayas from Cashmere to Assam and Sikkim; breeds in Kumaon and throughout the outer ranges from Darjeeling to Murree from May to August, and descends to the lower valleys during winter. Jerdon says it is found as high as 7,000 feet elevation. It is tolerably common, but rather shy, and does not show itself in the open or in gardens so much as *M. simillima*. The nest of this species as well as of *M. simillima* is usually placed on the ground, but in some places ledges of rocks, hollow massive roots, or the fork of a tree is selected; in the latter case not very far off the ground. Wattle and dab framework, with an external coating of moss and fern and the same soft internal lining, is the composition of the nest. Eggs, normally 4 in number, ground colour, pale dingy green, but thickly mottled, streaked, and clouded with dull brownish red so closely in some as to entirely obscure the ground colour. Size 1·1 to 1·33 inch in length and 0·83 to 0·92 inch in breadth.

**373. *Merula nigropileus*, (Lafresnaye) Delessert, Voy. de l'Inde, pt. ii. p. 27; Seebohm, Cat. B. Br. Mus. v. p. 250. *Turdus nigropileus*, (Lafr.) Jerd. B. Ind. i. p. 523.**—The BLACK-CAPPED OUZEL.

Head, nape, lores, cheeks and upper part of ear coverts black; back, rump, wings and tail dark blackish or fuscous ashy, tinged with brown on the interscapulars; chin and upper throat darkish brown, shading into dull vinous brown on the breast and into dull slate grey on the axillaries; under wing coverts, belly, flanks and under tail coverts shading into nearly white on the centre of the belly; bill and eyelids orange yellow; legs brownish yellow; irides brown. The female has the head, nape and back an almost uniform brown; the white on the centre of the belly is more developed, and the throat is obscurely streaked with dark brown.

*Length*.—9·5 inches; wing 4·5 to 5; tail 3·5 to 4; culmen 0·98 to 1; tarsus 1·2 to 1·3.

*Hab.*—Western, Central and Southern India. Found in Coorg, the Wynaad on the Eastern Ghauts, the higher table-lands of Central India, at Bastar and Jaulnah, also in Nellore in the Carnatic, Tellicherry, Matheran, Madras and the Neilgherries. It feeds on insects and berries. It breeds on the mountains of South India, and descends to the plains a little before winter. Jerdon, says Mr. Ward, obtained the nest in Sirci in North Canara, made of roots, grass, &c., with three eggs, pale blue, spotted with brown.

**374. *Merula simillima*, (Jerd.) Blyth, Cat. B. A. S. Mus. p. 162; Seebohm, Cat. B. Br. Mus. v. p. 251; Jerd. B. Ind. i. p. 524, No. 360; Hume, Nests and Eggs, p. 232. *Turdus simillima*, Jerd. Madr. Journ. x. p. 253.**—The NEILGHERRY OUZEL.

Entirely black, darker on the head and back of neck, lighter beneath, and tinged with dusky; bill orange; legs dusky yellow; irides dark brown. The female is dusky olive brown above, lighter beneath.

*Length*.—10·5 inches; wing 5; tail 4·2; tarsus 1·35; culmen 1·1.

*Hab.*—Southern India. Confined to the Neilgherries. The nests are similar in structure to those of its congeners, wattle and dab, &c., being used in its composition. Eggs, normally 4 in number, sometimes 5, dingy bluish red. Size from 1·1 to 1·3 inches in length and in breadth 0·82 to 0·93 inches.

**375. *Merula bourdilloni*, Seebohm, Cat. B. Br. Mus. v. p. 251; pl. xv. *Merula Kinnisi*, (Blyth) apud. Hume, Str. F. vii. p. 35.—BOURDILLON'S TRAVANCORE OUZEL.**

Head black, rest of upper parts dull black; under parts very dark brown, with traces of dark slate grey margins to the feathers of the flanks; below and behind the eye a bare space; bill orange.

*Length*.—9·5 to 9·8; wing 4·7; tail 3·94; culmen 1·1; tarsus 1·32.

*Hab.*—Travancore, breeding at an elevation of 4,000 feet. According to Mr. Bourdillon it is not uncommon in the dense scrub jungle at the extreme summit of the hills.

**376. *Merula castanea*, Gould, P. Z. S. 1835, p. 185; Blyth, J. A. S. B. xvi. p. 149; Jerd. B. Ind. i. p. 526; Hume, Nests and Eggs, Ind. B. p. 235; Seebohm, Cat. B. Br. Mus. v. p. 259.—THE GREY-HEADED OUZEL.**

Entire head, neck and throat very pale grey; greyish white on the chin and throat; back and scapulars deep rich chestnut, or chestnut bay, suffused with dark brown on the upper back and olive brown on the longer upper tail coverts; wings, wing coverts and tail dark brown; breast, flanks and belly, also axillaries and under wing coverts, deep rich chestnut, the centre of the belly more or less marked with dark brown and white; under tail coverts dark brown with white tips and shafts; tail dark brown; bill and legs yellow; wings brown.

*Length*.—10·5 inches; wing 5·5; tail 4·5; culmen 1·1; tarsus 1·4.

The female has the upper parts suffused with olive brown, the chestnut colouring is duller, and there are on the sides of the white throat some obscure streaks.

*Hab.*—The Himalayas from Cashmere to Assam, breeding at high elevations. Eggs of the type of *M. bouboul*.

**377. *Merula fuscata*, (Pall.) Seebohm, Cat. B. Br. Mus. v. p. 262. *Turdus fuscatus*, Pallas, Zoogr. Rosso Asiat. i. p. 451; Gould, B. Asia i. pl. lxxv. *Turdus eunomus*, Tem. pl. col. ii. No. 514. *Turdus naumanni*, Tem.**

*apud Gould B. Eur.* ii. pl. lxxix. *Turdus dubius*, *Bechst. apud Jaub. et Barth. Lapom. Rich. Orn.* p. 213. *Planesticus fuscatus*, (*Pall.*) *Ferd. B. Ind.* i. p. 530; *Blyth, Ibis*, 1866, p. 366.—THE DUSKY THRUSH.

Upper parts brown, the feathers centred darker and frequently intermixed with chestnut; lores and ear coverts dark brown; supercilium buffish white reaching to the nape; wings dark brown, the secondaries and wing coverts edged on their outer web with chestnut; tail dark brown, shading into chestnut on the margin of the inner web; chin, cheeks and throat buffish white, in some with traces of a moustachial stripe; breast and flanks dark brown, each feather narrowly edged with buffish white, except on the sides of the breast, which are uniform black; belly and under tail coverts buffish white; axillaries and under wing coverts pale chestnut with obscure white margins; bill dark brown, paler at the base of the lower mandible.

The female is greyish brown in colour, and the feathers of the lower throat and breast have dark brown fan-shaped terminal spots.

*Length*.—8·5 inches; wing 4·8 to 5·3; tail 3·25 to 4; culmen 0·84 to 0·9; tarsus 1·2 to 1·3.

*Hab*.—Northern and Central Asia, extending into Japan and China. A rare winter visitor to the Himalayas. Seebohm says it breeds in Siberia, in the valley of the Yenasey, eastward among the willow bushes in the sheltered gorges of the tundra above the limit of forest growth, and in a similar climate on the mountain regions near Lake Baikal. On migration it strays westward through north China and winters in Japan, straying as far as Assam and even N.-W. India. It is recorded from Nepal and Assam.

**378. *Merula protomomelæna***, *Seebohm, Cat. B. Br. Mus.* v. p. 265. *Turdus dissimilis*, *Blyth, J. A. S. B.* xvi. p. 144. *Geocichla dissimilis*, (*Blyth*) *Bly. Cat. B. Mus. As. Soc.* p. 163; *Hume, Nests and Eggs, Ind. B.* p. 231; *Hume, Str. F.* ix. p. 103. *Turdulus cardis*, *Tem. apud Ferd. B. Ind.* i. p. 521. *Turdus protomomelas*, *Cab. Journ. Orn.* 1867, p. 286.—CABANIS'S OUZEL.

Entire head, nape, and throat black, also the breast and upper parts; beneath from the breast brilliant orange chestnut, shading into white on the centre of the belly; under tail coverts white, with slate grey sides; bill yellow; legs yellowish; irides brown.

The female is uniform olive brown above; throat nearly white in the centre; the feathers of the sides of the throat and chest with dark brown fan-shaped terminal spots; rest of under surface as in the male.

*Length*.—8·5 inches; wing 4·5; tail 3; tarsus 1·1; culmen 0·86 to 0·97.



*Hab.*—Eastern Himalayas, N.-W. Provinces, and Bengal. Has been known to breed at Nynee Tal, where Captain Marshall found a nest during May at about 7,000 feet elevation in a small shrubby tree. The nest was (Hume) placed in a fork about 7 feet from the ground, it was made of moss with a few roots intertwined. The egg (number not given), Hume says, is an elongated oval a good deal compressed towards the smaller end, a delicate pale sea green in colour, profusely speckled and spotted with reddish brown, more dense towards the larger end, where it is almost confluent, and forms a partial cup; size 1·06 × 0·7 inch.

**379. *Merula atrigularis* Tem. Man. d' Orn. i. 169; Gould. B. Eur. ii. p. 75; Blyth, Cat. B. Mus. As. Soc. p. 161; Seeböhm, Cat. Birds B. M. vol. v. p. 268; Murray, Vert. Zool., Sind, p. 131.** *Turdus atrigularis*, (Tem.) Blf. East. Pers. ii. p. 158; Seeböhm, Ibis, 1879, p. 6. *Planesticus atrigularis*, (Tem.) Bp. Cat. Parzud; Jerd. B. Ind. i. p. 529, No. 365; Hume and Henders., Lahore to Yarkand, p. 192; Murray, Hdbk., Zool., 8c., Sind, p. 140. *Turdus mystacinus*, Severtz. Turkest. Fevozn. pp. 64, 115, 119.—The BLACK-THROATED THRUSH.

Above pale cinereous brown; the feathers of the head, wings and tail darker brown; a black streak from the base of bill to the eyes not very distinct; ear coverts dark brown, tipped paler; chin, throat, breast, and lores black; abdomen, vent and under tail coverts white, the latter with a few brown dashes; axillaries darkish grey; under wing coverts buffy.

The female wants the pectoral gorget; the chin and throat is white; the sides and breast grey brown, with conspicuous dark centres; bill yellow, the tip dusky; orbits yellow; legs horny brown; irides dark brown.

*Length.*—10·5 inches; wing 5·75; tail 4·75; bill at front 0·91.

*Hab.*—Beloochistan, Persia, Afghanistan, Western Turkistan, the Himalayas, Nepaul, Punjab, N.-W. Provinces and Sind during winter. Breeds in Siberia and Turkestan.

This Thrush, according to Jerdon, is found throughout the Himalayas, inhabiting the higher ranges in the interior in summer, but descending to the lower ranges in winter. It keeps to the more open woods at a level of from 3,000 to 4,000 feet, and is occasionally seen on roads and pathways. It feeds on insects and berries.

**380. *Merula ruficollis*, Pall. Reis. Russ. Reichs. iii. p. 694; Gmel. Syst. Nat. i. p. 815; Pall. Zoogr. Rosso. Asiat. i. p. 452; Seeböhm, Cat. B. Br. Mus. v. p. 270.** *Planesticus ruficollis*, (Pall.) Bp. Parzud. p. 5; Jerd. B. Ind. i. p. 528.—The RED-THROATED OUZEL.

Upper surface and ear coverts grey, the lores darker; supercilium chestnut, scarcely reaching the nape; wings and wing coverts brown, edged with grey;

centre tail feathers brown, the remainder chestnut on inside web and basal portion of outside web; chin, throat, and breast chestnut; under surface pale greyish, white on the flanks, with obscure darker centres; axillaries and under wing coverts buffish chestnut; bill dark brown; lower mandible yellowish at base; legs, feet, and claws brown; irides brown.

The female has very little chestnut on the throat and breast, which have the general colour of the flanks, with black fan-shaped terminal spots to many of the feathers.

*Length*.—10 inches; wing 5·5; tail 4; tarsus 1·5; culmen 0·85 to 0·9.

*Hab*.—The Himalayas, where it breeds; Nepaul, Bhootan to China, and Southern Siberia. It winters in Turkestan, India, and China, and occasionally straggles into Europe. It frequents forests, associating in large flocks.

**381. *Merula unicolor***, *Tick. J. A. S. B.* ii. p. 577; *Gould. P. Z. S.* 1837, p. 136; *Gray, Gen. B.* i. p. 220. *Geocichla unicolor*, (*Tick.*) *Blyth, Cat. B. Mus. As. Soc.* p. 163; *Ferd. B. Ind.* i. p. 519, No. 356; *Murray, Hdbk., Zool., &c., Sind*, p. 140; *Murray, Vert. Zool., Sind*, p. 131.—TICKELL'S OUZEL.

Above uniform dusky, slaty, or ashy grey; wings and tail dusky brown, their external webs margined with ashy grey; breast, throat, and flanks pale slate grey; chin pale grey, nearly white; abdomen, vent and under tail coverts white; under wing coverts buff; legs and feet pale brown; bill dusky yellow; eyelids and gape yellow; irides brown.

*Length*.—9 inches; wings 4·5 to 4·75; tail 3·45; bill 0·95.

*Female*.—Upper parts olive brown; ashy grey on the rump and upper tail coverts; throat and breast paler than in the male, nearly white; the feathers of the throat with some spots.

*Hab*.—Central, Southern and Western India. Common in the Punjab, N.-W. Provinces, Oudh, Central India, Deccan, Rajputana and Nepaul. Breeds in the Himalayas, and migrates to the plains in winter. In Sind it is rare, and is found in the northern portion only.

**382. *Merula obscura***, (*Gmel.*) *Scobohm, Cat. B. Br. Mus.* v. p. 273; *Oates, B. Br., Burm.* i. p. 1. *Turdus obscurus*, *Gmel. Syst. Nat.* i. p. 816; *Lath. Ind. Orn.* i. p. 333; *Wald. Tr. Zool. Socy.* ix. p. 187; *Blyth, B. Burm.* p. 99; *Hume and Dav., Str. F.* vi. p. 251; *Dresser, B. Eur.* ii. p. 71 pl.; *Hume, Str. F.* viii. p. 94. *Turdus pallens*, *Pall. Zoogr. Rosso. Asiat.* i. p. 457. *Turdus rufulus*, *Drap. dict. Class d'Hist. Nat.* x. p. 443 *Ball, Str. F.* i. p. 69. *Turdus modestus*, *Eyton, P. Z. S.* 1839, p. 103.—THE DARK OUZEL.

Upper plumage olive brown, tinged with slaty on the head, the primaries and the inner webs of the other quills dark brown ; a narrow white supercilium ; lores black ; chin and base of lower mandible white, as also a short line produced downwards from the lower mandible ; throat, cheeks, sides of the neck, and ear coverts dusky slaty ; breast and sides of the body ochraceous ; abdomen, vent, and under tail coverts white ; under wing coverts and axillaries pale grey.

The *female* is like the male, but has the lores brown, the supercilium, chin, and a line down the throat buffy white ; the ear coverts are dark brown, striped with buffy ; a buffy white line runs from the bill under the ear coverts, and a brown one between this and the throat ; top of head like the back. *Young birds* have the upper parts striped with ochraceous, and the wing coverts are tipped with the same ; the breast feathers are tipped with brown ; bill dark brown, the lower mandible yellow, also the gape and inside of mouth ; irides olive brown ; legs yellowish brown.

*Length*.—8·6 inches ; wing 4·8 ; tail 3·5 ; tarsus 1·2 ; bill from gape 1·1.

*Hab.*—Siberia, passing through China and Mongolia on migration, and wintering in Assam, Malacca, Burmah, North India, and the Islands of the Malay Archipelago. It occasionally strays as far west as Turkestan, Nepaul, and Europe. It has been recorded from Arrakan. Oates got a specimen in Pegu at Kyeikpadein in April. Davison found it common in Tenasserim, both in the hills and plains. Mr. Seebohm found the nest in the valley of the Yenasay in June.

**383. *Merula pallida*, (Gmel.) Seebohm, Cat. B. Br. Mus. v. p. 274 ; Oates, B. Br. Burm. i. p. 274. *Turdus pallidus*, Gmel., Syst. Nat. i. p. 815 ; Wald, in Bl. B. Burm. p. 99 ; Hume and Dav., Str. F. vi. p. 253 ; Hume, Str. F. viii. p. 94. *Turdus daulias*, Tem. Pl. Col. 515.—The PALE OUZEL.**

Upper plumage rich russet brown, tinged with grey on the head ; lores very dark brown ; ear coverts brown ; supercilium none ; wings brown ; the primaries, primary coverts, and bastard wing feathers with the outer webs slate grey ; the outer webs of the secondaries, greater, median, and lesser wing coverts russet brown ; tail dark brown, the outer webs margined with olive brown ; inner webs of outside tail feathers white for half an inch at the tip, the white being gradually decreased on the inner feathers to the third on each side ; throat, cheeks, breast, and flanks slate grey, whiter on the abdomen and centre of the breast, and more or less irregularly shaded with brown on the lower throat, sides of the breast, and flanks ; under tail coverts white, the basal half edged with brown ; axillaries and under wing coverts pale slate grey, obscurely tipped with white ; bill dark brown, yellow at base of lower mandible ; irides brown ; legs and feet pale yellowish brown.

*Length*.—8·9 inches; wing 4·8 to 5·1; tail 3·3 to 3·9; culmen 0·9 to 1·0; tarsus 1·15 to 1·2.

*Hab*.—The hill tracts of Eastern Bengal, Assam, and British Burmah. In Burmah it was procured by Captain Wardlaw-Ramsay in Karin at an elevation of 5,000 feet. In Tenasserim Davison got a specimen on the Mooleyit Mountains.

Gen. **Monticola**.—*Boie*.

This genus is placed by Seebohm in his *Cat. B. Br. Mus.* after *Erithacus*. There are certainly links which Mr. Seebohm may have considered sufficient to establish its position, but, taking both the external and internal structure of the group, there can be little doubt that its systematic position is between the Ouzels and the Chats, instead of after the latter. The genus *Monticola* is shortly characterized as having, like the Ouzels (males), an unspotted under surface; the bill, too, is long and the tail comparatively short; and, as Mr. Seebohm puts it, "never as many as four times the length of the culmen." The bill is long, slender, straight, and moderately hooked at the tip, and either entire or faintly notched; nostrils apert, plumed at the base; rictal bristles small and numerous; wings long, the third quill generally the longest; tail short and even; tarsus moderate, 1 to 1·2 inches in length. All the Indian species have blue chins and throats and chestnut breasts and abdomen. The females have a barred under surface.

**384. *Monticola saxatilis*, (Linn.) Boie, *Ibis*, 1822, p. 522; Seebohm, *Cat. B. Br. Mus.* v. p. 314. *Turdus saxatilis*, Linn., *Syst. Nat.* i. p. 294. *Petrocoscyphus saxatilis*, (Linn.) Boie, *Ibis*, 1826, p. 972.**—The Rock Thrush.

Entire head and neck cobalt blue; the upper back and scapulars blue black, lower back white; the feathers margined with bluish grey; upper tail coverts and tail chestnut; the two centre tail feathers brown on the terminal half; wing coverts and secondaries dark brown with obscure white tips; under surface of body chestnut.

The female is uniform brown above; the under surface is chestnut, barred with dark brown.

*Length*.—8·5 to 9 inches; wing 4·7 to 4·8; tail 2·4 to 2·5; culmen 0·94 to 1; tarsus 1 to 1·1.

*Hab*.—South Europe, Persia, and Siberia, where it breeds. Migrates to Mongolia and North China, North Africa, and Abyssinia, extending its range eastwards in winter to the borders of India and into North Burmah. Occurs, though not commonly, in Cashmere and Afghanistan? (Griffiths), and the North-West Himalayas and North Burmah.

**385. *Monticola cyaneus*, Linn. Syst. Nat. i. p. 296; Gmel., Syst. Nat. i. p. 834; Lath. Ind. Orn. i. p. 345.** *Monticola cyana*, (Linn.) Boie, *Ibis*, 1822, p. 552; Shelley, *Birds of Egypt*, p. 70; Blf. *Eastern Persia*, ii. p. 155. *Petrocossyphus cyaneus*, (Linn.) Boie, *Ibis*, 1828; Ferd. B. Ind. i. p. 511, No. 351; Ill. Ind. Orn. p. 20; Hume and Henders., *Lahore to Yarkand*, p. 190; Heugl., *Syst. Uebers.* p. 29; Sharpe and Dresser, *B. Eur.*; Murray, *Hdbk., Zool., &c., Sind.* *Cyanocinclia cyaneus* (Linn.), *Str. F.* 1874, p. 407; vol. vi. p. 247; *id.* iii. p. 112.—The BLUE ROCK THRUSH.

*Male*.—Head, neck, and back indigo blue, with a faint metallic lustre on the head; lores dusky greyish; wings, their coverts and tail dark brown; the outer webs of the feathers indigo blue; under surface of body cobalt blue; the abdomen and the under tail coverts with faint streaks and spots of whitish.

*Female*.—Of a dingy brown, scarcely tinged above with indigo or cobalt blue; some of the feathers edged whitish; under parts fulvous with dusky transverse bars, including the under tail coverts; bill black; legs black; irides brown.

*Length*.—8·5 to 9 inches; wing 4·5 to 5; tail 3·75 to 4; bill at front nearly one inch.

*Hab.*—Southern Europe, North Africa, Beloochistan, Persia, Afghanistan, wintering throughout the peninsula of India. Recorded from all India, Tenasserim, Cashmere, Nepal, and North-West Himalayas. Extremely common in the Concan and Deccan, Kutch, Kattiawar, Jodhpore, Sambhur, and North Guzerat, also in South India. Frequents gardens, pagodas, &c. Breeds in the Himalayas, laying 4 eggs, pale blue, spotted with brown; has a fine gloss; size 1·0 × 0·73 inches.

**386. *Monticola cinclorhynchus*, Vig. P. Z. S. 1831, p. 172.** *Petrophila cinclorhyncha*, (Vig.) Ferd. Madr. Journ. x. p. 252; Hume, *Nests and Eggs, Ind. B.* p. 227. *Orocetes cinclorhynchus*, (Vig.) Bp. *Consp.* i. p. 297; Ferd. B. Ind. i. p. 515; Seebohm, *Cat. Passerif. B. Museum*, vol. v. p. 320; Murray, *Hdbk., Zool., &c. Sind.*, p. 140; *Str. F.* vol. iv. 398.—The BLUE-HEADED CHAT THRUSH.

*Male*.—Head, nape, chin, upper throat, and cheeks indigo or cobalt blue, also the lesser wing coverts; lores, ear coverts, sides of neck, back, and scapulars black tinged with dusky blue on the back; primaries, their coverts, and greater and median coverts edged with bluish on their external webs; a white bar on the outer web of the secondaries; rump, upper tail coverts, entire under surface, axillaries, and under wing coverts ferruginous or chestnut; tail black, the external webs of the feathers margined with blue. In the female the colours are less pronounced; bill blackish; legs brown; irides dark brown.

*Length*.—7 to 7·5 inches; wing 4; tail 2·75 to 3; bill at front 1.

*Hab.*—The Indian Peninsula, ranging to Nepaul and Cashmere. Occurs sparingly in Sind, Punjab, and N.-W. Provinces, and more abundantly in the Concan, Deccan, Travancore, North Guzerat, and Rajputana in the course of its migration. Breeds in the Himalayas. Eggs 4, pale blue, spotted with brown; size 0·96 × 0·79.

**387. *Monticola erythrogaster*, (Vig.) Dav. et Oust. Ois. Chine,** p. 159; *Seebohm, Cat. B. Br. Mus.* v. p. 325. *Turdus erythrogaster*, (Vig.) *P. Z. S.* 1831, p. 171. *Orocetes erythrogaster*, (Vig.) *Jerd. B. Ind.* i. p. 514, No. 352: *Hume and Davison, Str. F.* vi. p. 250. *Petrophila erythrogaster*, (Vig.) *Hume, Nests and Eggs, Ind. B.* p. 227; *Str. F.* viii. p. 94; *Scully, Str. F.* viii. p. 282.—THE CHESTNUT-BELLIED ROCK THRUSH.

Whole upper plumage cobalt blue, more or less dusky, and occasionally blackish on the back; wings black, all but the first two primaries blue on the outer web; lores, cheeks, and ear coverts black; chin and throat dusky blue; remainder of lower plumage, including the axillaries and under wing coverts, bright chestnut; tail blue turning to dusky on the inner webs.

The upper plumage of the female is brown; the rump, lower back, and upper tail coverts barred with black; wings brown, each feather edged with dusky white; chin and a line down the throat buff; a spot on the side of the neck fulvous; sides of the head blackish, with pale central streaks; under plumage buffy, barred with black; tail uniform brown. The young are like the female. In the first stage the plumage above is barred with black, which gradually disappears. The variations of colour in the young, however, are very great.

Bill black; irides dark brown; feet vinous brown. In the female the bill is dusky.

*Length*.—9·4 to 9·5 inches; wing 4·7 to 4·9; tail 4 to 4·2; tarsus 1·1; bill from gape 1·2.

*Hab.*—The Himalayas from Nepaul to Assam and British Burmah. It is recorded from the N.-W. Himalayas, Kumaon, Nepaul, Darjeeling, and Bhootan, also the Upper Punjab and N.-W. Provinces. Dr. Jerdon procured it in the Khasia Hills and Colonel Godwin-Austen in North Cachar. In Burmah Captain Wardlaw-Ramsay obtained it on the hills east of Tounghoo. Hume says he has only once seen the nest of the Chestnut-bellied Thrush on a journey from Kangra into Kooloo. It was placed at the root of a tree in the forest, and was a large shallow saucer, composed almost entirely of moss and lined with moss roots. The species lay from May to August. Eggs, 4 in number, somewhat buff-coloured and about 1·1 by 0·75 inches in size. The average size is 1 by 0·75 inch.

Gen. **Erithacus**.—*Cur.*

In this genus, as revised, there are only sixteen known species, six only being found in India. The bill is small or of mean length, generally black above and paler on the under mandible; rictal bristles small or nearly obsolete; wings moderate; tail short, more or less rounded, and of 12 feathers; tarsus long, slender, and not scutellated, except occasionally in young birds. Three species of the six which occur in British India are known to breed in the Himalayas. In habits they closely resemble the Redstarts. They feed mostly on the ground, insects generally being their chief food.

**388. *Erithacus brunneus*, (Hodgs.) Seeböhm, Cat. B. Br. Mus. v. p. 302.** *Larvivora brunnea*, Hodgs., *J. A. S. B.* vi. p. 102, 1837 (female); *Legge, B. Ceylon*, p. 446. *Larvivora cyana*, (Pall.) *apud. Hodgs., J. A. S. B.* vi. p. 102, 1837 (male); *apud. Jerd., B. Ind.* ii. p. 145, No. 507; *apud. Hume, Nests and Eggs, Ind. B.* p. 324. *Larvivora superciliaris*, (Jerd.) Blyth, *Ibis*, 1867, p. 16; *Brooks, Str. F.* 1875, p. 240; *Fairbank, Str. F.* 1876, p. 259.—THE INDIAN BLUE ROBIN or WOOD-CHAT.

Upper surface dull dark blue; lores, forehead at base of bill, cheeks, and ear coverts black; shading into dull dark blue on the sides of the neck; supercilium white; wing and their coverts brown, their outer webs more or less suffused with dull dark blue; tail brown; the two centre feathers and the outer webs of the others more or less suffused with dull dark blue; under surface of body orange chestnut, shading into white on the centre of the abdomen and under tail coverts; axillaries and under wing coverts grey, more or less suffused with pale blue; bill dark brown, paler at base of under mandible; rictal bristles nearly obsolete.

The female has the upper surface olive brown, slightly suffused with chestnut on the upper tail coverts; the under surface is chestnut brown, paler on the chin and throat and white on the centre of the abdomen and under tail coverts. Birds of the year resemble the female.

*Length*.—6 to 6·2 inches; wing 2·8 to 3; tail 1·7 to 1·95; culmen 0·5 to 0·6; tarsus 1 to 1·1.

*Hab.*—The Himalayas from Cashmere to Sikkim, the Neilgherries, Travancore, and Ceylon. Jerdon records it from near Calcutta. At Darjeeling it is said to be common; also about Madras. It frequents open forests in the hills, perching low and descending to the ground to pick up insects. Breeds on the Himalayas and the Neilgherries. Mr. Davison in *Nests and Eggs* says the nest was in a hole in the trunk of a small tree about 5 feet from the ground and was composed chiefly of moss, but mixed with dry leaves and twigs. The egg taken by Mr. Davison was an elongated, slightly pyriform oval, the ground colour a pale slightly greyish green, thickly mottled and streaked with pale brownish red; size 0·98 × 0·67.

**389. *Erithacus cyaneus*, (Pall.) Seebohm, Cat. B. Br. Mus. v. p. 303; Oates, B. Br. Burm., i. p. 13. *Motacilla cyane*, Pall, *Reis Russ. Reichs*, iii. p. 697. *Larviva cyane*, Wald. in *Bl. B. Burm.* p. 101. *Hume and Dav., Str. F.* vi. p. 335; *Hume, Str. F.* viii. p. 100.—The SIBERIAN BLUE ROBIN.**

Base of the bill, lores, and a line under the cheeks black; cheeks, ear coverts, and the whole upper plumage blue; wings and tail brown, washed with blue on the outer webs; whole under plumage white, the flanks washed with brown; axillaries and under wing coverts grey, more or less suffused with blue.

The *female* has the whole lower surface white, washed with fulvous on the flanks and breast, the feathers of the latter also tipped slightly with brown; lores, cheeks, and ear coverts mingled fulvous and brown; the whole upper plumage, including the wings and tail, brown. The *young* are like the female, and have the upper tail coverts washed with blue; bill from pale to dark horny brown; lower mandible fleshy white; legs and feet fleshy white; irides deep brown.

*Length*.—5·5 to 5·6; wing 2·6 to 2·8; tail 1·8; tarsus 1·1; bill from gape 0·7.

*Hab.*—The Siberian Blue Robin breeds in Eastern Siberia and winters in North India, China, S.-E. Mongolia, and British Burmah, ranging through the Malayan Peninsula. Davison says it occurs in Tenasserim in the better-wooded parts. Oates procured a specimen in Pegu. It keeps entirely to the ground, searching among dead leaves for its food, which is chiefly insects.

**390. *Erithacus calliope*, (Pall.) Seebohm, Cat. B. Br. Mus. v. p. 305; Oates, B. Br. Burm. i. p. 14. *Motacilla calliope*, Pall. *Reis. Russ. Reichs*, iii. p. 697. *Turdus kamtschatkensis*, Gmel., *Syst. Nat.* i. p. 817. *Calliope kamtschatkensis*, *Ferd., B. Ind.* ii. p. 150, No. 512; *Blyth, B. Burm.* p. 101; *Dresser, B. Eur.* ii. p. 341; *Hume and Dav., Str. F.* vi. p. 337; *Hume, Str. F.* viii. p. 100; *Oates, Str. F.* x. p. 213.—The SIBERIAN RUBY-THROATED ROBIN.**

Whole upper plumage olive brown, slightly darker on the head and ear coverts; lores black; supercilium white, meeting in a narrow line over the forehead; cheeks white, separated by a narrow dark brown moustachial line from the chin and throat, which are brilliant glossy scarlet; breast ashy grey, shading into nearly white on the centre of the belly and into brown on the flanks and thighs; under tail coverts, axillaries, and under wing coverts very pale buff; bill black; legs, feet, and claws brown; irides brown.

The *female* has the superciliary streak buffy white; lores and in front of the eye dusky brown; no scarlet throat patch, which is replaced by pale brown.



*Length*.—6 inches ; wing 2·9 ; tail 2·4 ; tarsus 1·15 ; bill from gape 0·8.

*Hab*.—Throughout Siberia, where it breeds, extending southwards as far as the extreme north of China. Winters in the Philippine Islands, British Burmah, and in Northern and Central India and Bengal, also the Western coast, occasionally straying into Europe. It is recorded from Arrakan by Blyth. Abundant in Pegu, rather rare in Tenasserim, also at Thayetmyo and Karin. Jerdon says it is found chiefly in Northern and Central India, also that he saw it south of Bombay. In Bengal he says it is most common, and in the eastern side of India. In its manners it is shy, silent, and solitary ; haunts thickets and underwood, and feeds on the ground on various insects. It has a pretty song.

**391. *Erithacus pectoralis*, Gould, *Icones. Avium*. pt. ii. pl. 1 ; Blyth, *J. A. S. B.* xii. p. 934 (1843) ; *id.* xvi. p. 135 ; Adams, *P. Z. S.* 1858, p. 492 ; Godwin-Austen, *J. A. S. B.* xxix. pt. ii. p. 270 ; *Ferd. B. Ind.* ii. p. 150, No. 513 ; Hume, *Nests and Eggs, Ind. B.* p. 325 ; Brooks, *Str. F.* 1875, p. 241 ; Seebohm, *Cal. B. Br. Mus.* v. p. 307. Calliope ballioni, Severtz, *Turkest. Jevotn.* pp. 65, 122 ; *id.* *Str. F.* 1875, p. 429.—The INDIAN RUBY-THROATED ROBIN.**

Upper parts, including the ear coverts and sides of the neck, a uniform dark slate grey, shading into brown on the crown ; lores black ; eye-stripe white, meeting in a narrow line over the forehead ; wings brown, the outer webs of the wing coverts slate grey ; tail with sometimes two and sometimes four centre feathers plain brown, the remaining feathers dark brown with more or less white on the base and tips of most feathers ; chin and upper throat glossy scarlet ; *cheeks*, lower throat, and upper breast dull black ; belly and under tail coverts white, shading into slate grey on the flanks, axillaries, and under wing coverts ; bill black ; rectal bristles almost obsolete ; legs and feet brown.

*Length*.—6 inches ; wing 2·7 to 2·9 ; tail 2·0 to 2·25 ; culmen 0·65 ; tarsus 1·25.

The *female* differs from the male in having the general colour of the upper parts a uniform earthy brown ; the black on the lores, cheeks, lower throat, and upper breast replaced by greyish brown ; the slate grey of the flanks, axillaries, and under wing coverts replaced by brown. Tail feathers brown terminally with a spot of white.

*Hab*.—Throughout the Himalayas from Cashmere to Sikkim, where and in Turkestan it breeds in the pine districts, and descends into the valleys during the cold season. Frequents thick brushwood or long grass jungle. In the Punjab and N.-W. Provinces it is less common. In Assam, and probably Upper Bengal, it frequents similar situations. Of its nidification nothing authentic is known. Mr. Hume had a nest and some eggs brought to him in

Native Sikkim during June, found in a deep crevice in a rock at an elevation of about 12,000 feet. The nest was a saucer-shaped pad of very fine moss and fern roots, closely-felted together. The eggs, two in number, were regular ovals, slightly compressed towards the small end. Colour uniform pale salmon buff. Size  $0.9 \times 0.67$  inch.

**392. *Erithacus tschebaiewi*, (Prejv.) Seebohm, Cat. B. Br. Mus. v. p. 308.** *Calliope tschebaiewi*, Prejv., Rowley's Orn. Misc. ii. p. 180; pl. liv. fig 1. 1877; Gould, B. Asia pt. xxxi. pl. 10, 1879.—THE THIBETAN RUBY-THROATED ROBIN.

Upper parts dark slaty-grey, suffused with olive brown on the head and rump; lores black, ear coverts dark brown; supercilium white, quills brown edged with olive brown; lesser wing coverts dark slate grey; median wing coverts edged with dark slate grey; greater wing coverts and innermost secondaries olive brown; tail nearly black, the two centre feathers entirely so; the next on each side tipped with white, the remaining four on each side with the basal half white, except the outside web of the outside feather on each side and a large spot at the tip; cheeks white edged with black; chin and throat glossy scarlet; breast black; axillaries and under wing coverts and flanks slate grey; belly and under tail coverts white, the latter with slate grey bases; bill black; legs and feet dark brown.

*Length.* 5.9 inches; wing 2.9 to 3.25; tail 2.4 to 2.5; culmen 0.6; tarsus 1.2 to 1.3.

The female has the upper parts dark olive, a white supercilium, and black lores; the under parts dirty white; the tail dark olive, without the white bases which characterize the male and with the terminal white spots much smaller. (Seebohm.)

*Hab.*—Sikkim. There is only a single skin of this species in the British Museum.

**393. *Erithacus cæruleculus*, (Pall.) Seebohm, Cat. B. Br. Mus. v. p. 308;** *Motacilla cærulecula*, Pall. Zoogr. Rosso Asiat. i. p. 480; *Cyanecula suecica*, Linn. Sys. Nat. i. p. 336 (*Partim*) Brehm. Vogt. Deutschl. p. 350 Gray, Gen. B. i. p. 182; Heugl. Orn. N. O. Afr. i. p. 336; Shelly, B. Egypt; Blf. East. Persia, ii. p. 169; Hume and Dav., Str. F. vi. p. 337; Legge, Birds of Ceylon, p. 433; Murray, S. F. vii. p. 112; id. Hdbk., Zool., &c., Sind, p. 152; Shelly, Ibis, 1881, Str. F. ix. p. 330; viii. 304. *Cyanecula cæruleculus*, (Pall.) Bp. Consp. i. p. 296; Gray, Handlist B. i. p. 223; Jerd. Birds Ind. ii. p. 152; No. 514.—THE INDIAN BLUE-THROAT.

Head, neck, back, wings, and wing coverts pale brown; the feathers of the head slightly centred darker and the wing coverts and quills edged paler; lores dark brown; supercilium buffy white; chin, cheek, throat, and breast cobalt blue, with a large ferruginous or chestnut spot in the centre of the throat and breast; below the blue of the breast a black band, followed by a chestnut

one; rest of under surface buffy white; tail rufous or pale ferruginous, the two centre feathers and the terminal third of the others dark brown, lighter on the outermost; ear-coverts silky rufescent brown; bill dusky; gape yellow; legs dusky brown; irides dark brown.

*Length*.—5·5 to 6·5 inches; wing 3; tail 2 to 2·25. The female is like the male, but without the pectoral gorget; the throat, chin, and neck buffy white, with a line of dusky brown from the base of the side of the lower mandible continued to, and across the breast; rest of under surface buffy white.

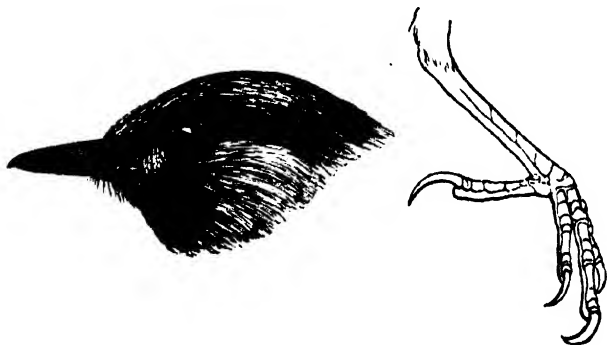
*Hab.*—Europe, Asia, and North Africa. Winters in the plains of India. Common in Sind, Punjab, N.-W. Provinces, Bengal, and the whole of India, to Nepaul and Cashmere; also in Beloochistan, S.-E. Persia, Afghanistan, and E. Turkistan. It has been recorded from Arrakan, and is found nearly throughout British Burmah. Its habits are quite those of its congeners, frequenting thick brushwood and long grass jungle in the vicinity of water.

#### Gen. *Sialia*.—Swainson.

A small group of birds, the natural position of which is difficult to define. Some authors place the genus among the Saxicolinæ, which is as nearly as possible its true place, being very closely related to the Redstarts.

The single species known in India was characterized by Hodgson under the generic title of *Grandala* (*J. A. S. B.* xii. p. 447), which was admitted by Blyth and subsequently by Jerdon. Seebohm, however, in his *Cat. B. Br. Mus.* v. p. 327, places *Grandala* as a synonym of *Sialia*, which I follow.

The genus is characterized by Jerdon and Seebohm as having a moderate, slender, straight, and black bill, slightly depressed at the base. Nostrils oval; *rectal bristles nearly obsolete*; *legs black*; tarsus not scutellated; tail moderate, of 12 feathers, slightly forked; wings long and pointed; 2nd primary as long or nearly so as the third; tertials half the length of the primaries; colour blue.



*Sialia Calicolor.*

**394. *Sialia œlicolor*, (Hodgson), Seebohm, Cat. B. Br. Mus. v. p. 328. *Grandala œlicolor*, Hodgs. J. A. S. B. xii. p. 447. *Blyth*, J. A. S. B. xvi. p. 132; *Gould. B. Asia*, pt. xi. (1862); *Jerd. B. Ind.* ii. p. 119. *Grandala schistacea*, Hodgs. J. A. S. B. xii. p. 447.—The HIMALAYAN LONG-WINGED BLUE-CHAT.**

Upper and under surface deep indigo blue, shading into brilliant indigo blue with metallic gloss on the rump and upper tail coverts; lores black; wing coverts, quills, and tail black, margined obscurely with greenish blue; axillaries and under wing coverts dull black, margined with indigo blue.

The female is an almost uniform earthy brown above and below; the feathers of the rump and upper tail coverts broadly tipped with dull brownish blue; secondaries and the primaries next them with a subterminal white bar. (Seebohm.)

*Length*.—9 to 9·3 inches; wing 5·6 to 5·7; (females 5·2); tail 3·45 to 3·75; bill 0·7 to 0·8; tarsus 1·15.

*Hab.*—The Himalayas, breeding at high elevations; eastwards throughout the mountains separating China from Thibet. Jerdon says it inhabits the northern region of Nepaul or Cachar and near the snowy region. According to Hodgson it is solitary in its habits. Insects and gravel were found in the stomach of a specimen examined.

#### Gen. **Ruticilla**—C. L. Brehm.

Bill shorter than in *Sialia*, straight, slender, and black; rectal bristles fairly developed; legs black or nearly always so; tarsus not so long as in *Sialia*, not scutellated; tail of 12 feathers even or slightly rounded; wings moderately long and pointed; 1st primary about one-third the length of the 4th; the 5th and 6th generally equal and longest. Rump and tail (except the two centre) feathers chestnut in most species—the upper plumage generally grey. They have a pleasing song and perch freely on trees, but build in holes of walls, rocks, or tree trunks.

**395. *Ruticilla phœnicurus*, Linn, Syst. Nat. i. 335. *Sylvia phœnicurus* (Linn.) Lath. Gen. Syn. Suppl., i. p. 287; *id. Ind. Orn.* ii. p. 111. *Phœnicura muraria*, Sws. and Rich, Faun. Bor. Am. ii. p. 489. *Phœnicura ruticilla*, (Eyton) Gould. B. Eur. ii, pl. 95. *Ruticilla phœnicura*, (Linn.) Jerd. B. Ind. ii. p. 136, No. 495; Dresser, B. Eur. pt. xxvi. (1874); Blanford, E. Pers. ii. p. 163; Seebohm, Ibis, 1880, p. 191.—The EUROPEAN REDSTART.**

A narrow frontal band; lores, cheeks, ear coverts, chin, throat, and upper breast black; a band behind the black frontal band white; upper surface of body brownish ash or slate-grey; rump and upper tail coverts rich chestnut; wings and their coverts dark brown, margined with chestnut exteriorly; lower

breast and flanks chestnut; the feathers broadly margined with white, *paling into pure white on the centre of the abdomen* and into pale chestnut on the axillaries and under wing and tail coverts; tail chestnut, except the inner webs of the two central tail feathers, which are dark brown; bill, legs, and feet black; irides brown.

*Length*.—5·5 to 5·6 inches; wing 2·8 to 3·3; tail 2·1 to 2·5; culmen 0·5; tarsus 0·9 to 0·75.

The *female* resembles the male, except that the under parts are buff and that there are no dark bases to the feathers of the upper surface. *In breeding plumage* the forehead of the male becomes pure white, the head becomes slate grey, and there is a scarcely perceptible pale margin to the wings and their coverts. The breast and flanks have no white margins which, with the feathers of the axillaries, wing coverts, and under tail coverts, become a rich chestnut.

*Hab.*—Seebohm says it breeds throughout the Palearctic region as far north as the Arctic circle and as far east as the watershed of the Yenasey and the Lena. It winters in South Persia and Central Africa as far west as Senegal. It is recorded from the N.-W. Provinces of India, the Punjab, and Afghanistan. It breeds in holes of trees and walls. Eggs verditer blue.

**396. *Ruticilla mesoleuca*** (*Hempr. et Ehr.*). *Cab. Journ. Orn.* 1854, p. 446; *Seebohm, P. Z. S.* 1879, p. 979; *Seebohm, Cat. B. Br. Mus.* v. p. 338; *Murray, Vert. Zool., Sind.* p. x.; *Sylvia mesoleuca*, *Hempr. et Ehr. Symb. Phys.*, fol. cc., 1832. *Sylvia phœnicura* (*Linn.*) *apud Menctries, Cat. Rais. Cauc.*, p. 35. *Ruticilla phœnicura*, (*Linn.*) *apud Heugl. Syst. Uebers.*, p. 25; *apud Blanford, Geol. and Zool., Abyss.*, p. 358.—EHRENBERG'S REDSTART.

Differs from *Phanicuris* by the male having the outer webs of the secondaries more or less broadly margined with white, otherwise it is not unlike the male of *Phanicuris*; 2nd primary between 5th and 7th. The female, Seebohm says, is slightly darker on the upper and under parts.

*Length*.—5·5 inches; wing 2·84 to 3·2; tail 2·16 to 2·45; culmen 0·5; tarsus 0·75 to 0·9.

*Hab.*—The Caucasus, Asia Minor, and Algiers, wintering in Sind (rare), Persia, Western Arabia, Abyssinia, and Senegal.

**397. *Ruticilla rufiventris***. *Jerdon, B. Ind.* ii. p. 137, No. 497; *Gray, Handlist B. i.* p. 221; *Blansf. East. Persia*, ii. p. 163; *Murray, Hdbk. Zool., &c., Sind*, p. 152; *id. Vert. Zool., Sind*, p. 146; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 342. *Ruticilla phœnicuroides*, *Moore, P. Z. S.* 1854, p. 25, pl. lvii; *Jerd. B. Ind.* ii. p. 136; *Gray, Handlist B. i.* p. 221. *Ruticilla erythroprocta*, *Gould, apud Hume and Henders. Lahore to Yarkand*, p. 208; *apud Severtz. Turkest. Jevohn.*—THE INDIAN REDSTART.

*Adult Male*.—Crown of head ashy grey; throat, neck, lores, ear coverts, breast, back, and wing coverts dark brown or black, the feathers edged greyish; wings dusky brown; the primaries and secondaries margined rufescent on their outer webs; breast, flanks, under wing coverts, belly, rump, upper and lower tail coverts, and tail (except the inner and part of the outer webs of the two central feathers, which are dark brown) uniform chestnut. The female is brownish above. The edge of the wings, belly, and under tail coverts pale rufous; bill and legs dark brown; irides brown.

*Length*.—6 inches; wing 3·3; tail 2·5; bill at front 0·55.

*Hab*.—India generally. Breeds in North China, Mongolia, and Eastern Turkestan. Occurs in Sind, Beloochistan, S.-E. Persia, and Afghanistan during winter; also in Nepaul, Kashgar, Behar, N.-W. Himalayas, Kutch, Kattiawar, Jodhpore, North Guzerat, the Concan, and Deccan to South India.

Frequents groves of trees, orchards, gardens, and the vicinity of old buildings, walls, and houses. Feeds on insects. It has a most peculiar quivering motion of its tail on its perch after feeding.

**398. *Ruticilla hodgsoni*, Moore, P. Z. S. 1854, p. 26, pl. lviii; *Ferd. B. Ind.* ii p. 138, No. 498; *Godwin-Austen, J. A. S. Z.*, xlvii. pt. 2, p. 18 (1878). *Phœnicura ruticilloides*, *Hodgs. MS. Drawings*. *Ruticilla erythrogastra*, (*Gould*) *apud. Blyth, Cat. B. Mus. As. Soc.*, p. 168.—HODGSON'S REDSTART.**

Upper surface of body dull slate-grey, shading into white on the forehead and into bright chestnut on the rump and upper tail coverts; a narrow frontal band at the base of the upper mandible; the lores, feathers behind the eye, ear coverts, cheeks, chin, throat, and upper breast black; lower breast to vent, axillaries, under wing and tail coverts, rump and tail feathers (except the two central tail feathers, the inner and outer margins of which are dusky brown), bright chestnut; hind part of crown, neck, back, wings and their coverts dusky or dark brown; the outer half of the basal half of the secondaries white, forming a wing patch; bill, legs, and feet black; irides brown.

*Length*.—6·5 inches; wing 3·05 to 3·3; tail 2·6 to 2·85; tarsus 0·9 to 1; culmen 0·6.

The *female* is greyish brown and below the chin is paler, also the axillaries and under wing coverts, shading to albescent or white on the centre of the abdomen; under tail coverts pale chestnut; upper tail coverts rich chestnut.

*Hab*.—The Himalayas from Nepaul to Assam, where it winters in the valleys. It is recorded from Assam, Bhootan, Darjeeling, Afghanistan, and Nepaul.

**399. *Ruticilla aureora*, (Gmel.)** *Jerd. B. Ind.* ii. p. 139, No. 500; *Wald. in Bl. B. Burm.*, p. 201; *Hume Str. F.* iii. p. 135; *Oates, B. Br. Burm.* i. p. 16. *Motacilla aureora*, *Gmel., Syst. Nat.* i., p. 976.—The DAURIAN REDSTART.

A narrow line on the forehead, lores, cheeks, chin, ear coverts, and throat black; remainder of lower surface with the axillaries and under wing coverts deep chestnut. Head, nape, and upper back slaty grey; most of the feathers slightly tipped with brown; *back, scapulars and wing coverts black*, sometimes margined with grey; rump and upper tail coverts chestnut; tail chestnut, except the central pair and the terminal half of the outer web of the outer pair of feathers, which are black; wings very dark brown; nearly black on the secondaries, which have a large white patch at the base of each feather.

The *female* differs from the male in having the whole under parts light brown, tinged with rufous on the vent and under tail coverts; head, sides of head and neck, back, and scapulars olive brown; rump and upper tail coverts chestnut; wings and wing coverts brown; each feather margined paler, and the spot on the secondaries smaller than in the male; tail chestnut, the black parts in the male being replaced by brown; bill and legs black; irides brownish.

*Length*.—5·75 inches; tail 2·5; wing 2·9; tarsus 0·9; culmen 0·6.

*Hab.*—S.-E. Himalayas, Bhootan, Assam, and Eastern Bengal and Burmah during winter. It summers in S.-E. Siberia, E. Mongolia, North China, and the mountains of Japan. It has also been recorded as occurring during winter in the Malay Peninsula.

**400. *Ruticilla erythrogastra*, (Gould.)** *Blyth, Cat. B. Mus. As. Soc.* p. 168; *Gould. B. Asia*, i. pl. 49; *Jerd. B. Ind.* ii. p. 139, No. 499; *Hume and Henders., Lahore to Yarkand*, p. 210; *Dreaser, B. Eur.* pt. lxvi.; *Blanford, J. A. S. B.* xli., pt. 2, p. 51. *Motacilla erythrogastra*, *Gould, Nov. Com. Petrop.* xix. p. 469.—The WHITE-WINGED OR GULDENSTADT'S REDSTART.

*The male in full autumn plumage*.—Forehead, crown and nape pale grey, the feathers mesially streaked below with white; a narrow line at base of upper mandible; lores, ear coverts, sides of the neck, cheeks, *chin, throat*, breast, upper and under wing coverts, *back* and scapulars black; quills dark brown, *a white spot on the wing*; rump, upper tail coverts, tail, *axillaries*, belly, flanks and under tail coverts chestnut, slightly darker on the two central tail feathers. Bill, legs, feet and claws black; 3rd, 4th, and 5th primaries sub-equal and longest; 2nd equal to the 7th.

*Length*.—Wing 4·05 to 4·3 inches; tail 3·01 to 3·3; culmen 0·59 to 0·6; tarsus 1·1.

The *female* is drab in colour, slightly darker on the lores and ear coverts and much lighter on the margins of the greater wing coverts. The chestnut

colouring is duller than that of the male. Axillaries are drab and not chestnut in colour, the under tail coverts only are suffused with chestnut, the belly and flanks being pale drab.

*Hab.*—The Himalayas, where and in the pine regions of the Caucasus, Turkestan, and the mountain ranges between Thibet and China, Seebohm says, it breeds in the birch and pine regions. It is said to have occurred in the N.-W. Provinces of India, and is known from Nepaul, Cashmere, and Bhootan, also Yarkand. In habits it is not unlike its congeners. Jerdon mentions it from Kumaon, and that a pair was seen by Dr. Stewart near Landour at the side of a stream.

**401. *Ruticilla erythronota*, (Eversm.) Bp. *Consp.* i. p. 297; *Blanf. East Pers.* ii. p. 167; *Seebohm, Cat. B. Br. Mus.* v. p. 34. *Sylvia erythronota*, *Eversm., Add. Pall. Zoogr. Rosso.-Asiat. fasc.* ii. p. 110. *Ruticilla rufogularis*, *Moore, P. Z. S.* 1854, p. 27, pl. lix; *Hume, Ibis*, 1870, p. 530.—EVERSMANN'S REDSTART.**

*Adult male in full autumn plumage.*—Head and nape grey; a narrow line at the base of the upper mandible; lores, ear coverts and sides of the neck black, each feather more or less conspicuously tipped with brown; back, rump and upper tail coverts bright chestnut, the feathers of the former fringed with brown; scapulars black, also fringed with brown; quills brown; innermost secondaries darker and with their outer webs margined with white; primary coverts white, broadly tipped with dark brown; greater wing coverts dark brown, narrowly tipped with white; median wing coverts white; tail bright chestnut, except the two central feathers and the terminal half of the outer web of the outermost feather on each side, which are black, occasionally mixed with chestnut; *chin and throat*, breast and flanks, bright chestnut, sometimes obscurely tipped with buffish, which is the colour of the belly; under tail coverts shaded with chestnut; axillaries white; bill, legs, feet and claws black; 4th and 5th primaries sub-equal and longest.

*Length.*—Wing 3·5 inches; tail 2·75 to 2·85; culmen 0·46 to 0·6; tarsus 0·9 to 1·0.

The female is similar to the male, except that the back and under parts (not including the under tail coverts) are greyish brown.

*Hab.*—Persia, Afghanistan, N.-W. Provinces, Kashgar, and the N.-W. Himalayas generally. Seebohm says it breeds in the pine and birch regions of Turkestan, S.-W. Mongolia, and S.-E. Siberia.

**402. *Ruticilla frontalis*, (Vigors) Gray, *Cat. Mam. &c., Nepaul, Coll. Hodgs.*; *Seebohm, Cat. B. Br. Mus.* v. p. 305. *Phœnicura frontalis*, *Vig. P. Z. S.* 1831, p. 172; *Gould, Cent. Him. B.* pl. xxvi. fig. 1; *Blyth***



*J. A. S. B.* xi. p. 190 (1842). *Ruticilla frontalis* (*Vigors*), *Jerd. B. Ind.* ii. p. 141, No. 503; *Godw.-Austen*, *J. A. S. B.* xxxix. pt. 2, p. 270; *Hume and Henders.*, *Lah. to Turk.* p. 211.—The BLUE-FRONTED REDSTART.

*Adult male in full autumn plumage.*—Forehead and supercilium cobalt blue; rest of the head, neck and mantle blue black, most of them as if dusted over with chestnut; primaries and secondaries brown, their outer webs margined paler; innermost secondaries dark brown, margined on their outer webs with chestnut; lesser wing coverts dark blue, with narrow pale edges; median and greater coverts black, edged with chestnut; lower back, rump and upper tail coverts rich chestnut; tail rich chestnut, except the two centre feathers which are black, margined on the outer web with chestnut, the terminal half of the outer web of the outermost feather and the tips of the other feathers, which are also black, for about half an inch. Sides of the neck, ear coverts, cheeks, chin, throat and foreneck blue black, dusted over with brownish; rest of under surface rich chestnut, paler in the centre of the belly; axillaries chestnut; thighs sooty brown; bill, legs and claws black.

*Length.*—6·5 inches; wing 3·4 to 3·6; tail 2·7 to 2·9; culmen 0·5 to 0·6; tarsus 1.

The female is rich sooty brown, the forehead with a shade of chestnut, which deepens on the rump and upper tail coverts. Two centre tail feathers dark brown, with chestnut margins on the basal half of the outside edges; rest of tail feathers rich chestnut, three-fourths of the outside edges of the outermost feather and the tip of the rest brown for about half an inch; under surface pale sooty brown; chin and centre of belly shading into pale chestnut; axillaries and under wing coverts pale chestnut; under tail coverts rich chestnut.

*Hab.*—The Punjaub, N.-W. Provinces, and Nepaul to Assam. Recorded from Darjeeling, Cashmere, Thibet, Kumaon, Bootan, and near Dhurrumsala, also Sikkim. Jerdon says it is more common in the N.-W. Himalayas, and Seebohm that it breeds in the pine forests of the mountain chains from the Western, Southern, and Eastern boundaries of Thibet, Cashmere, Nepaul, Sikkim, Assam, and Moupin, and that it descends into the valleys during winter.

**403. *Ruticilla schisticeps*, (*Hodgs.*) *Moore*, *P. Z. S.* 1854, p. 29 pl. lxi.; *Jerd.*, *B. Ind.* ii. p. 140; *Seebohm*, *Cat. B. Br. Mus.* v. p. 351. *Phoenicura schisticeps*, *Hodgs. MS. Drawings*, *B. M. B. Nepaul*. *Ruticilla nigrogularis*, *Moore*, *P. Z. S.* 1854, p. 29, pl. lxi; *Jerd. B. Ind.* ii. p. 140; *Hume*, *Str. F.* iv. p. 497.—The SLATY-HEADED REDSTART.**

*Adult male in full autumn plumage.*—A narrow black line at the base of the bill; forehead and crown cobalt blue, the bases of the feathers on the occiput, nape, and hindneck black; mantle and lower back black; rump

and upper tail coverts deep rich chestnut, their bases black; scapulars black, the terminal half rich chestnut; lesser wing coverts black, also the greater and primary coverts; median coverts white; innermost secondaries nearly black, their outer edges margined with white; tail black, chestnut at base, the two centre feathers entirely black; sides of the neck, cheeks, chin, throat, ear coverts and foreneck black; a large white spot on the lower throat; under surface deep rich chestnut; axillaries and under wing coverts black, tipped with white; thighs black; bill, feet, and claws black.

*Length*.—6 inches; wing 3·1 to 3·2; tail 2·8; tarsus 0·25.

The Adult female is rich sooty brown above the forehead, tinged with cobalt, and the scapulars with pale chestnut; rump and upper tail coverts chestnut; under surface duller sooty brown; base of outer tail feathers chestnut, greater wing coverts white.

*Hab.*—Nepaul. Seebohm says it breeds in the wooded valleys of Kansu, and winters in Nepaul and Sikkim.

**404. *Ruticilla cœruleocephala*, Vigors, P. Z. S. 1830, p. 35; Gould. Cent. Him. B. pl. xxv.; Blyth, Cat. J. A. S. B. xvi. p. 134; Bp. Conspect. i. p. 296; Jerd. B. Ind. ii. p. 141; Seebohm, Cat. B; Br. Mus. v. p. 353.—The BLUE-HEADED REDSTART.**

*Adult Male in full autumn plumage*.—A narrow line at base of the upper mandible, lores, feathers round the eye, chin and ear coverts black; head and nape greyish brown; throat, breast, under wing coverts and scapulars black, margined with brown; wings and wing coverts black; median coverts and outer margins of the innermost secondaries white; axillaries, belly and under tail coverts white; bill, legs and feet black.

*Length*.—6 to 6·25 inches; wing 3 to 3·2; tail 2·3 to 2·7; culmen 0·55; tarsus 0·8 to 0·9.

The female is greyish brown above and below, darker on the wings and tail, and paler on the belly, under tail coverts and axillaries; upper tail coverts dull chestnut; greater and median coverts suffused with chestnut and with white tips.

*Hab.*—Afghanistan, N.-W. Provinces and Nepaul, also Bhootan and the Himalayas generally.



THE  
AVIFAUNA OF BRITISH INDIA  
AND ITS DEPENDENCIES.

A SYSTEMATIC ACCOUNT,  
WITH DESCRIPTIONS OF ALL THE KNOWN  
SPECIES OF BIRDS INHABITING BRITISH INDIA,  
OBSERVATIONS ON THEIR HABITS, NIDIFICATION, &c.,  
TABLES OF THEIR GEOGRAPHICAL  
DISTRIBUTION IN PERSIA, BELOOCHISTAN,  
AFGHANISTAN, SIND, PUNJAB, N. W. PROVINCES,  
AND THE PENINSULA OF INDIA GENERALLY,

WITH  
WOODCUTS, LITHOGRAPHS, AND COLOURED ILLUSTRATIONS.

BY

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"KURRACHEE TO KANDAHAR;" "THE VERTEBRATE ZOOLOGY OF SIND;"  
"THE REPTILES OF SIND," &c.



VOLUME I.

LONDON:—TRÜBNER & Co., LUDGATE HILL.  
BOMBAY:—EDUCATION SOCIETY'S PRESS, BYCULLA.

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1888.

**BOMBAY :**

**PRINTED AT THE EDUCATION SOCIETY'S PRESS, BYCULLA.**

## ERRATA.

*(Slips for pasting in Vol. 1.)*

At end of page 25—

**Sub-family.**—CORVINÆ.

Bill stout, long and straight ; culmen arched ; tarsi stout, scutellate.

At top of page 169—

**FAMILY.**—CAMPOPHAGIDÆ.

Bill short, a few bristles at the base ; nostrils rounded ; wings moderate, 3rd to 5th quills longest ; tarsi transversely scutellate.

Correct the top heading of alternate pages from 170 to 180 to read Campophagidæ instead of Prionopidæ.

CAMPOPHAGIDÆ.

CAMPOPHAGIDÆ.

CAMPOPHAGIDÆ.

CAMPOPHAGIDÆ.

CAMPOPHAGIDÆ.

CAMPOPHAGIDÆ.



# PREFACE.

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LED on by friends, correspondents and working field and cabinet Ornithologists, as well as by the successes of all my previously published books, I began this work, which, it is hoped, will be found a useful Manual to the student and to those interested enquirers to whom hitherto a descriptive monograph of all the Birds known to inhabit British India and its dependencies was a desideratum. It is purely intended as a means to the acquirement of a better knowledge of the Avian inhabitants of British India and its dependencies, by furnishing under a generally accepted classification, and within a moderate compass, the ordinal, generic and specific descriptions of all the known species, including all the discoveries made subsequent to the publication of the late Dr. Jerdon's work, and thus rendering greater facilities to the student of the Ornis of the British Indian Empire.

In every instance where a sufficiently large series of specimens was not available to me for description, and where the species had been already so fully described as to leave nothing to be desired, I have by preference given the original descriptions. These are chiefly from Sharpe, Seebohm and Gadow's valuable monographs.

To facilitate the study and identification of species, I have given diagrams illustrating the different parts of Birds, with the corresponding terms used in their description. These, it is hoped, will be found useful to the student, the collector and the would-be enquirer; while numerous woodcuts and coloured illustrations of structural, specific, generic and other characters have been added to simplify identification. The scientific and trivial English names are given of every species described, as well as the different synonyms by which a species has been known. Habits, resorts and distribution have also been given as far as the materials within my reach would permit.

J. A. M.





# INTRODUCTION.

Birds form one of the most marked and grand divisions of vertebrated animals, as well as the most lovely group in creation. They are oviparous, red and warm-blooded, feathered bipeds breathing by lungs which are bound by cellular tissue to the inside of the ribs and the sides of the dorsal vertebræ, there is therefore no distinct thoracic cavity, nor free muscular diaphragm. The cells open directly from the bronchial trunks and, though minute, are large compared with the cells of the lungs of quadrupeds. The interior of the bones, by communicating with the cells of the lungs, are respiratory organs, which communicate circuitously with the trachea. The cells which are continued from the lungs into the cavity of the abdomen, extend to the interior of the trunk, appear in the axillæ, in the neck, and in the region of the pelvis. In fact, every part is impregnated with the air in which they are destined to move. The young of birds, however, have the interior of their bones filled with a thin serous fluid or marrow, but this is soon displaced by air from the air-cells of the lungs which gains access at the proximal extremities, to the extent necessary for the various species according to their habits and modes of life. Being intended for flight, their external anatomy or those parts generally visible are specially organized for the purpose. The body is covered with feathers, instead of hair or wool, and the two forefeet of mammals are transformed into wings. As in other classes the form of structure of the body and all its various members as well as the modifications which these parts assume are discriminating characters which enable the Ornithologist to form conceptions of their respective peculiarities. The primary parts of birds, as of all vertebrates, are the head, body and limbs, under which subordinate members may be classed. The head is composed of the bill and the skull. The latter is joined to the body by a neck. The skull is formed of a thin, nearly diaphanous and continuous plate of bone above, with all the cranial bones anchylosed. The occipital is not separated from the parietal bones by a lambdoidal suture, nor is there a sagittal suture to separate the

parietals from the frontal. All these have anchylosed at a very early period. The first cranial vertebræ at the base of the occipital bone is short. The sphenoid bone and the parts in front which form the face are lengthened, while the pterygoid portions of the former are detached. The basilar part of the occipital bone ends in a single condyle, and its position at the lower margin of the foramen as well as its rotundity afford mobility to the connection of the occipital (*A*) bone with the slender circular atlas and the vertebral column generally. The neck being composed of numerous bones (*K*) is rendered flexible, and this enables a bird to preen its feathers both on the upper and lower surface of the body and to sleep with its head turned round and placed under the wing. The face of a bird is moveable upon the rest of the skull,—whether articulated as in parrots or not,—the thin nasal (*F*) bones being elastic to a certain extent. The orbits and organs of vision are large, the former being separated only by a thin translucent plate or membrane, while the latter are largely developed in lieu, to a great extent, to the want of the sense of touch. The lower jaw (*P*) moves freely and widens the gape very sensibly. The palatine bones are much developed in length and breadth, and these have between them a large fissure. The nostrils are very various in position, shape, and size, and the upper and lower jaws are also very variable and suited to their habits. In some the mandibles are compressed and lengthened, and terminate in a hook; in others they terminate in a point as in woodpeckers; others again are broad, sharp-pointed, hooked, rounded and hard, or as in ducks long, flat, spoon-shaped, and toothed; while birds of prey have a dense horny bill with the edges sharp, strong, and cutting, and the tip hooked. The bill is composed of two pieces corresponding to the jaws of quadrupeds; the upper portion (*a*) is called the upper mandible, which is either continued far back on the forehead and there dilated as to form a casque or helmet, or there is a soft naked skin at the base as in rapacious birds, which is the cere (*8*); the lower portion (*b*) is the lower mandible. At the base of the upper mandible, concealed or not, and of various shapes, are the nostrils (*c*), while the high medial keel of the bill is the culmen (*d*) and the corresponding keel of the lower mandible is the gonys (*e*). The margins of both mandibles (*f*), commonly called the commissure, is

either arched, straight, curved, or festooned, or the upper overlaps the lower; the forehead (*g*) is the region lying close to the nostrils. The body commences with or joins the breast (*o*) and extends the whole length of the sternum or breast-bone. It is succeeded by the abdomen (*q*) and terminated by the vent (*r*) and the under-tail coverts (*s*).

On the upper part of the body are the wings, the interscapularies or back (*t*), lower back (*v*), the rump (*w*), where the upper tail coverts (*w2*) are situated, and last the tail (*x*). The leg, as in quadrupeds, is composed of the thigh (*gg*), tarsus (*hh*), the toes (*ii*), and the claws.

It is scarcely necessary to give a detailed sketch of the internal anatomy of birds, since a knowledge of what is visible to the eye is almost sufficient to determine or classify them generally, or even closely allied groups—though it would no doubt be of much service to the ornithologist to know the various parts or rather the osteology of birds, in order that comparisons may be made of the bones of different groups and species. Professor C. J. Sundevall, in an article "On the Wings of Birds," translated for the "Ibis" of 1886, by W. S. Dallas, F.L.S., considers the feather covering of the wings of birds to be of the greatest significance in their systematic arrangement. He says, "It is a truth that every external part of an animal can furnish equally certain indications of affinity or distinction between species as an internal part of the body, and that in this respect no order of precedence can be established *à priori* \* \* \* \*." From a physiological point of view, indeed, the internal parts may be regarded as more important than the external, but zoographically we must regard the external parts as possessing an equal, if not greater value, because the characters derived from them can be easily recognized and examined.

Birds have much in common with mammals, and it cannot be denied that there are striking resemblances between individuals of both classes, especially in their habits. The Eagle and the Owl may be said to represent the feline tribe; the Vulture, the Hyæna; the Hawk, the Fox; the Parrots, the Monkeys feeding on fruit; the Ostrich, the Camel; the Cassowary, the Llama; and so on, so far as habits and character are concerned. With a few exceptions, they are essentially

creatures of the air, and their organization has been fitted for the purpose; the larger birds, as the Pelican and others, are specially organized for carrying their weight by air sacs under their breasts, besides the bones in their body being filled with air, which makes them more buoyant, and facilitate respiration under various pressures of the atmosphere.

Just as is the hair or fur of a mammal or the scales of a snake the feather is a horny production of the epidermis. According to Professor Huxley, it is devolved within sacs from the surface of a conical papilla of the dermis. The external surface of the dermal papilla, whence a feather is to be developed, is provided upon its dorsal surface with a median groove which becomes shallower towards the apex of the papilla. From this median groove lateral furrows proceed at an open angle, and passing round upon the under surface of the papilla, become shallower until, in the middle line opposite the dorsal median groove, they become obsolete. Minor grooves run at right angles to the lateral furrows. Hence the surface of the papilla has the character of a kind of mould, and if it were repeatedly dipped in such a substance as a solution of gelatine and withdrawn to cool until its whole surface was covered with an even coat of that substance, it is clear that the gelatine would be thickest at the basal or anterior end of the median groove, at the median ends of the lateral furrows, and those ends of the minor grooves which open into them; whilst it would be very thin at the apices of the median and lateral grooves and between the ends of the minor grooves. If, therefore, the hollow cone of gelatine, removed from its mould, were stretched from within, or if its thinnest part became weak by drying, it would tend to give way along the inferior median line opposite the rod-like casts of the median groove and between the ends of the casts of the lateral furrows as well as between each of the minor grooves, and the hollow cone would expand into a flat feather-like structure with a median shaft as a "vane" formed of barbs and barbules. In point of fact, in the development of a feather, such a cast of the dermal papilla is formed, though not in gelatine, but in the horny epidermic layer developed upon the mould, and as this is thrust outwards it opens out in the manner just described. After a certain period of growth, the papilla

of the feather ceases to be grooved and a continuous horny cylinder is formed which constitutes the quill. Shortly, a feather may be said to consist of a tube or quill (calamus), a shaft, and two webs. The tube or quill is horny and transparent, varies in length according to the species, and is fixed in the skin. The shaft or *rhachis* is that part above the quill which is filled with an elastic, corky, white buoyant pith-like substance which bears the vane or web. It is coated on the outer or generally convex side with a horny lamella not unlike the tube, and on the inner or pithy side (also coated, though slightly) is a well-defined groove along its length up to the umbilicus or the small opening into the interior of the tube, which is closed inside by dry membrane. On the side of the shaft, from above the quill or tube, are vane rays or webs. These latter are, in general, fine, filiform, and nearly cylindrical in the smaller feathers, and flattened in the larger ones, as the quills. These, again, are furnished with barbs, barbules and barbicels, which help to give coherency to the entire web.

Then there are the plumules or accessory plumes which, constructed like the larger feathers issue from the margin of the quill tube below the opening into the interior of the tube, which is regarded as an appendage checked in its growth. This is inconspicuous in gallinaceous birds, as pheasants. The plumules, unlike other feathers, have the vane rays very delicate and fibre-like; two series of barbs issue from them and from the barbs barbicels, extremely fine, entirely dis-united, and loose. In the Cassowary and the Emu this *plumula accessoria* is as large as the outer shaft and vane; in others as Grouse and Falcons, about three-fourths the length, downy and incoherent. In the most well-developed feathers, as the quill feathers, the plumule is not present, and in other altogether wanting throughout the whole of their plumage, as in *Strix*, *Columba*, and *Anas*, while in song-birds it is very minute and downy.

Feathers may be divided into those which protect the bird from extreme cold, and those specially intended for flight. Those which are next the body, and commonly known as down, are analagous to the underfur of quadrupeds. These keep the body in an equal temperature, and may be said to resist cold or wet.

Birds which lead an aquatic life have these feathers generally more developed than in others, for the manifest intention of affording additional warmth.

The feathers intended for flight are, first, the wing quills, which may be divided into primaries (4), secondaries (5), and tertiaries (6). The primaries may be distinguished from all the others by their greater size and stiffness. These arise from the bones of the hand. In number they are usually 10; the first of which is on the second finger joint, the 2nd, 3rd and 4th upon the first finger joint, and the other 6 upon the metacarpus. In some songbirds, however, the number is only 9, and the first feather is either rudimentary or wanting, but never the longest. Secondaries are those which arise from the forearm and are inserted in the skin on the posterior side of the ulna. They are not so stiff and strong as the primaries, usually shorter than them, more curved and more mobile. The tertiaries are those attached to the proximal end of the forearm, while the scapulars lie over the humerus and scapula.

The feathers on the upper surface of the wing are mostly developed on the cubitus and commonly designated wing coverts. The greater series (3) cover the base or root of the quills, and in general resemble the quill feathers or primaries, and, like them, are destitute of plumules. The second series, or median coverts (2), are also seated in the fold of the skin behind the arm. The smaller feathers behind this series are the lesser coverts (1).

Next is the tail, the feathers of which in the majority of birds are 12 in number, but there are others with as many as 14 to 18; these act in unison with the wing, during flight, and when expanded act as a rudder. The tail is longest in the Rasorial types and shortest in the natatorial and grallatorials. The tail feathers are covered at the base by the upper and under tail coverts. The tail, as the wing, in its structure shows a peculiar organization specially adapted for various purposes. An even tail is very uncommon; rounded tails are the most prevalent, while the racket tail is exhibited in 2 or 3 groups only as *Edolius*, or *Dissemurus* and *Dissemuroides*, and the lyre-shaped tail exclusively in the Rasorial order.

Of the osteology of birds much will not be said. In the composition of the frame of the body, birds may be said to have false ribs anterior and posterior to the true ribs. These cover nearly the whole short body or trunk, terminate anteriorly in a single articulation with the sternal ribs, and pass forwards to be fixed on the sternal appendices on the middle of the trunk. The false ribs do not at all touch the sternum (TT) or breast bone. In the act of respiration the sternum in birds plays a very important part. It is one of the most remarkable and characteristic bones of the skeleton—first, for its great development; next, for the extent to which it covers the trunk, enveloping, as it does, all the internal organs, and by the median carina in front, giving it solidity, as well as strength and power to the pectoral muscles, the limits of attachment of which latter are marked on the external surface. The surface presented by the sternum or breast-bone bears the permanent and powerful muscles of the humerus; the trunk is solid, and the scapula, situated as it is along the side of the vertebral column, gives attachment to the powerful muscles of flight, while the chief support and means of resistance is the coracoid-bone (*c*). The sternum is not of one shape or form throughout the class, but is variable in consonance with the habits of the different orders, and these different shapes, forms, and varieties of appearance lend considerable aid to the anatomist and systematist in working out perplexed affinities. In ducks and geese the posterior margin is replaced by membrane. In gallinaceous birds it terminates in narrow, separate bones; this is on account of their habit of running and feeding on the ground; while the high-flying rapacious birds have it solidly ankylosed and ossified. There are no parts of animals which vary so much in form and structure as the atlantal and sacral (*f*) extremities; the parts remotest from the centre of the skeleton are the most mutable in form; and the organs of progressive motion conform most to the medium in which animals reside. These parts vary so much in the same class of animals, that we might almost be induced to imagine that in organs so different as the human hand, and the fin of the porpoise or the wing of the bat, or the forefoot of the mole, all unity of composition was lost; and in passing to different classes we should scarcely expect to find the same element of structure which compose the fin



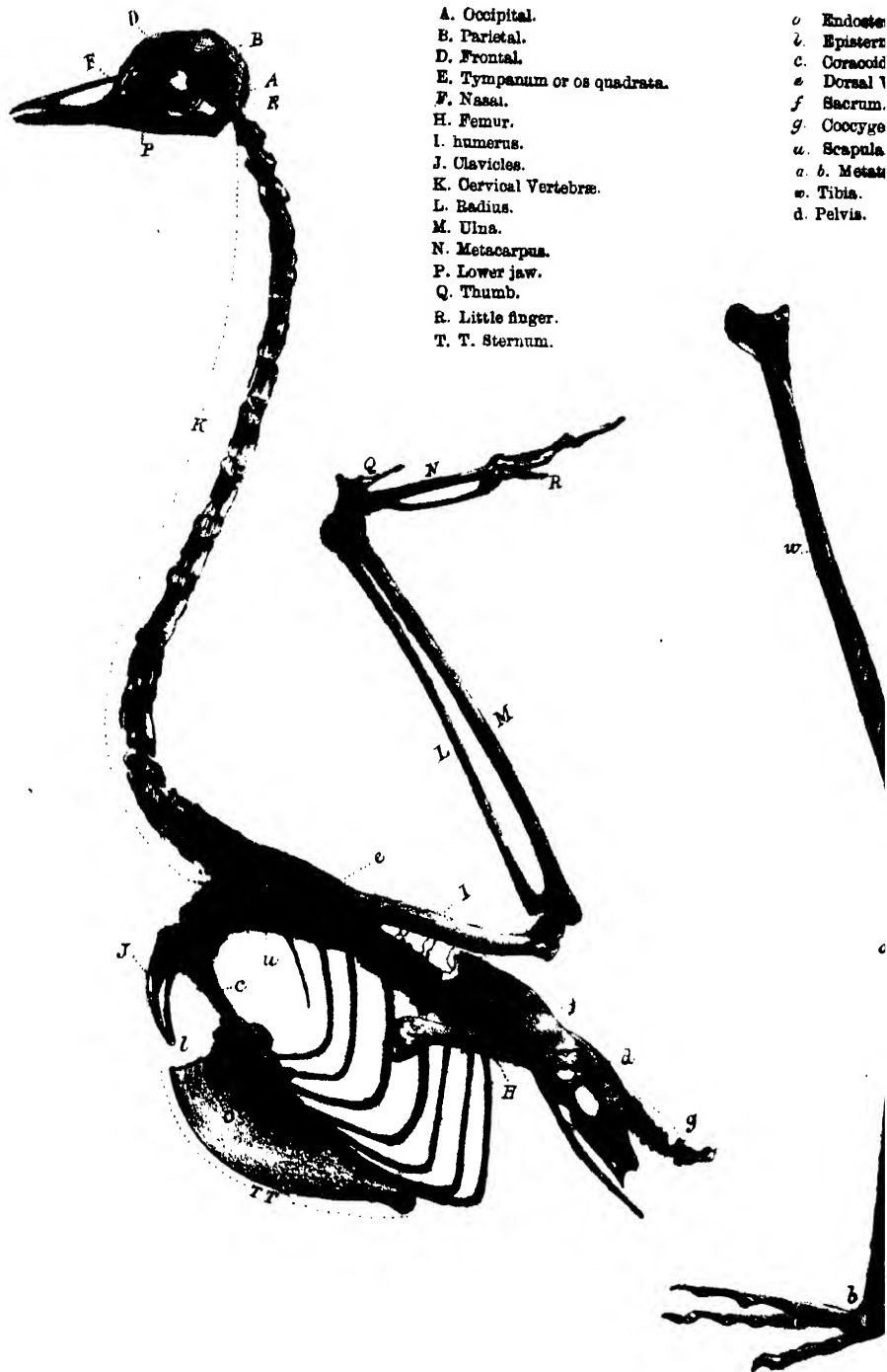
of a fish or the foot of a turtle metamorphosed into the wing of the bird. But these very diversities of form of the same organ, when carefully examined, present the best proofs of the unity and simplicity of the plan upon which all organic forms are constructed.

Anterior to the sternum are the clavicles which unite below and form the furcula or merry-thought bone. These are joined to the sternum by ligament or cartilage—and the width of these serve to keep apart the shoulders, in opposition to the strong exertions of the muscles of the wing in flight.

In most birds—arboreal birds especially—the legs are slender and as light as the wings. These have the long tendons of the flexors and extensors continued to the foot. By the long flexor of the toes passing over the knee and behind the heel, the bending of these joints forces them to grasp mechanically the branches on which they are perched.

The leg bones consist of a short femur, long tibia with an imperfect fibula anchylosed to it; a patella; an anchylosed tarso-metatarsal bone (the tarsus) and the toes. The pelvis is much extended longitudinally, and being anchylosed with the vertebral column, affords a large surface for the attachment of the muscles which support the trunk upon the thighs. The long iliac bones are excavated below and receive the kidneys. The ischia and pubic bones are wide and develope in their cavity the eggs, from which they are also expelled.

The muscular system of this class is also adapted for their aerial life and to carry them through the atmosphere. According to Professor Grant, of the Edinburgh College, their irritability or power of contraction is the greatest in the living state, and is the most quickly lost after death, its tenacity after death being generally in the inverse ratio of the degree of activity of that power during life. The muscles are generally more firm and vascular, tougher, stronger, and of a darker colour than in the cold-blooded vertebrates. These properties are most exhibited in the high-flying rapacious birds, and less so in granivorous birds. This muscular force becomes necessary in birds in order that they may fly, either for safety or to pursue their prey through the air, as well as to follow the seasons from latitude to latitude and to perform their migrations over mountain



*Balearica pavonina* (L.).



chains, continents, or the trackless ocean. Though the muscles of the extremities of birds are generally short and thick, the tendons are longer and slender, dense, and often ossified. The form and movements of birds being nearly the same, there is a great uniformity in the disposition of their muscles. Their arms and hands being appropriated for flight, their progressive motion through the air depends chiefly on the action of the *pectoralis major* or the *humerus*, a muscle surpassing in magnitude all the rest in the body and covering nearly the whole of the forepart of the trunk. The muscles of the arm, the forearm, and the hand are inserted high up, and their fleshy portions confined to near their orifice, so that only the long tendons are sent down to the points which are to be moved. There is very little motion in the phalanges of the fingers.

It is not within the scope of this introduction, to give an exhaustive or detailed classification of the organs of birds. The osseous system or the organs of support has been touched upon, also the tegumentary organs and those of motion. To detail the organs of connexion, sensibility and sensation as well as of nutrition and generation would go far beyond the intended limits of this introduction, while the proper treatment of these would need a more competent writer. *En passant*, however, a few remarks may not be out of place, especially in reference to those organs which the ornithologist and the student must necessarily examine—for instance, the testes. These, it is generally known, lie in front of, and in close proximity to, the kidneys, and although there are certain external characters which would enable the determination of the sex of a bird, yet nothing would be more satisfactory than an examination of this organ of generation—testes or ovaries decide the question beyond doubt. During the breeding or pairing season the testes of all male birds are much developed, while the female sex exhibit in the same situation well-developed ovaries which at other times though present, are small and granular. External sexual differences are more marked in birds than in mammals and other vertebrates; but these are not always reliable, especially in the case of birds, the young and the males of which assume the plumage of the female, or *vice versa*, at different seasons of

the year. The males, with some exceptions, are as a rule larger and more highly coloured.

The voice organs are placed in a glottis, at the bifurcation at the end of the wind-pipe, which is formed of entire rings of cartilage, and the call of each bird is produced by peculiar sets of muscles called the larynx. It is here, that that peculiar gift of Nature, the voice of birds, is formed, and this one of all other attributes distinguishes the class from all others in the animal kingdom. The air contained in the cells of the lungs is the force used, while the wind-pipe and the larynx with their contractions, or expansion or movements in the gullet, contribute to the modulations and modifications of the voice. By their song one knows of their happy and cheerful life, and by it the male woos its mate. It is a language which is not even known whether belonging to one family only, or generally intelligible among the class.

The nervous system in birds and the organs of the senses run rapidly to high development.

The sense of sight is also very highly developed in birds, and each class and each family and sub-family will be found to be fitted with organs developed to the extent of their wants and to suit their living condition. The eagle and the raptores generally soar out of human sight, and yet they can see their prey notwithstanding the immense distance. The owl is consigned as a night watchman, and its organs of sight are so adapted that it can only distinguish objects with greater facility in the dusk and when all nature is desirous of repose. It is, however, compensated by a larger or more highly developed sense of hearing. The sense of sight is certainly extremely keen and piercing, and this fact no doubt is an important factor in the solution of the question of the manner in which thousands of miles are traversed by birds in their annual migrations. This must assist them.

It is doubtful whether there is any special development of the sense of taste in birds; while that of smell, in the absence of any reliable data, may be said to be, if at all, very little developed, except in carrion feeders.

Like quadrupeds, birds may be classified as granivorous, carnivorous, and mixed feeders, or those that partake of both. Granivorous birds are furnished with larger and proportionally longer intestines than carnivorous species. Their food first enters a craw where it reaches entire, but soon undergoes partial dilution by a peculiar liquor secreted from the glands—thence enters another stomach, and eventually the gizzard or true stomach, where, with the aid of powerful muscles, thick and powerful membrane and stones it is triturated and becomes fit for the action of the gastric juices.

In their habits birds are either monogamous or polygamous, the latter exists generally among the Rasores or Gallinacea. Some again live a solitary life till the breeding season, when they begin their courtship and live in pairs, whilst their united efforts are necessary in forming their temporary habitation and in rearing their offspring. There are also some, as the cuckoo, which leave their eggs to the care of a foster parent. Birds generally evince great affection for their young, and do not leave them till they can feed themselves. A great number or the majority of those known to inhabit India and its dependencies quit the country for the purpose of breeding. Each species associate in flocks and aided by their keen sight, together with the advantage they possess of flying at considerable heights in the air, they are enabled with their instinctive knowledge to discover the route they are to take to migrate—taking, probably, as a guide, the appearance of the atmosphere, direction of winds, &c.; so that without recourse to improbable modes it is not difficult to form an idea of the speed at which they go in transporting themselves to far countries by crossing vast ocean tracts. Without the means of conveying themselves from one place to another they could scarcely subsist for the reason that climatic influences affect their food-supply. This may also be said to be one of the reasons for migrating. Besides the want of food, other causes of migration are, the want of a proper temperature of air and a convenient situation for the great work of breeding and rearing their offspring. They either remove from one country or climate to another—or from the inland districts to hills, forest regions or to sequestered rocks or islands in the sea, or to vast sandy plains far removed from, or in the vicinity of, the sea or

river. And all this is conducted with the greatest punctuality, and the same may be said of their reappearance a few months later. It is also a noteworthy fact, proved by experiments, that birds which affect a certain station or district usually return to it year after year. The question as to how they subsist during their migrations is readily solved, when we consider the velocity of their flight together with the considerable length of time the majority continue on the wing. If we estimate the speed of a bird's flight at a mile in two minutes it would need but 24 hours to carry it as many as seven hundred miles without taking into consideration favourable wind currents which would probably nearly double the distance. Red-starts and other short-winged birds pass by gradual and slow movements—as is evidenced by their appearance in different countries at different times of the year—but these seldom go further than the inaccessible heights of mountain ranges. Many journey during the night to avoid the dangers of daylight or for the purpose of taking advantage of favourable air currents. What the true reason for migrating is, has yet to be learnt. We see their punctuality of departure and return, we note the dates very carefully, the time of their nidification, the composition of the various structures they build for the rearing of their young, also the number of eggs they lay, their colour, size and shape as well as the changes of their plumage during the breeding season, but beyond this, and conjecture, we have not gone. The nidification of birds is indeed very various, but in consonance with their habits. The high-flying rapacious birds have their eyries on the ledges of high mountains in the most inaccessible parts or on the tops of high trees; the larger ones, including the Vulturinæ, lay but one, and seldom two eggs. The lesser ones, as the Accipitrinæ, build generally on trees, or on steeple tops, and lay 2—4 eggs, and seldom do more than repair their nests annually. All true vultures lay but a single egg, and their nests, as are those of eagles, are built entirely of stout sticks and twigs with a hollow receptacle lined with coarse grass or fine twigs and any soft material. Bones also form a part of the structure. Many birds build in society—occupying trees, mountain ledges, plains, and the caves of roofs—as sparrows, crows, herons, gulls, terns; and some when robbed of their eggs lay others very shortly after. The situation of the nests, too, are quite in consonance with their habits of life. Owls build in

holes in wells, caverns, and in old decayed trees ; Woodpeckers in holes in trees ; Kingfishers in the banks of streams ; the Swallow tribe build nests composed of mud plaster and feathers against the face of a wall, or under a roof or bridge, while others again, as the Byah or Weaver-bird, Honeysuckers, &c., build pensile nests, and all songsters nearly, of the Timeliinæ, group make small nests in bushes or shrubs ; and with an instinctive knowledge endeavour to hide their nests by various artifices, as covering them with cobwebs, lichen, or plaster to give them the appearance of the surroundings of the nest.

Of the Avian inhabitants of India nearly one-half are known to breed in the country. A great number go no further than the Himalayan range, while the rest may be said to be resident members, and to breed on the plains.

It is not necessary to refer to the geographical distribution of species, nor to divide the country into geographical regions, as the table at the end of the volume will sufficiently show the first, and the text the latter, while it is patent to all that humid countries comprise birds of bright plumage, and those of the plains of duller plumage, and in consonance with the nature of the surroundings. The geographical distribution of species has been worked out from all the materials available.

It is above half a century since Major Franklin, who was the first writer on Indian Ornithology, published a paper on the Ornithology of India. This paper appeared in the Proceedings of the Zoological Society of London. Colonel Tickell soon followed by publishing in the Asiatic Society's Journal a list of the Birds of Bhorabum and Dholbun. Another equally energetic naturalist was Col. Sykes, who in 1832 began his Catalogue of the Birds of the Deccan, and continued his studies and publications for some years, not only of birds but of the mammals and fish of the Mahratta Country so designated, while Mr. Brian Hodgson, who was attached as Resident at the Court of Nepaul, added largely to the store of knowledge of the avian inhabitants of the Himalayas. His contributions are spread both in the Indian and Home scientific periodicals, and his valuable MSS. and drawings, so largely referred to in every Orni-



thological work, are zealously watched over and consulted at the British Museum. Assam was next worked out by MacClelland, and his papers,—also published in the Zoological Society's Proceedings in 1839,—are full of interest, and particularly as showing the geographical distribution of the Himalayan birds.

Dr. Adam collected in Cashmere, as well as in the North-West Provinces of India; Colonel Tytler in Barrackpore and Dacca; while the names of Hutton and numerous other observers and collectors are prominent in the earlier journals as contributors of interesting notes on habits, nidification, &c., of species in various parts of India.

Mr. Blyth, who is rightly called the Father of Indian Ornithology, "was by far the most important contributor to our knowledge of the Birds of India." Seated, as the head of the Asiatic Society's Museum, he, by intercourse and through correspondents, not only formed a large collection for the Society, but also enriched the pages of the Society's Journal with the results of his study, and thus did more for the extension of the study of the Avifauna of India than all previous writers. There can be no work on Indian Ornithology without reference to his voluminous contributions. The most recent authority, however, is Mr. Allen O. Hume, C.B., who, like Blyth and Jerdon, got around him numerous workers, and did so much for Ornithology, that without his Journal "Stray Feathers,"—no accurate knowledge could be gained of the distribution of Indian birds. His large museum, so liberally made over to the nation, is ample evidence of his zeal and the purpose to which he worked. Ever saddled with his official work, he yet found time for carrying out a most noble object. His "Nests and Eggs," "Scrap Book," and numerous articles on birds of various parts of India, the Andamans and the Malay Peninsula, are standing monuments of his fame throughout the length and breadth of the civilized world. His writings and the field notes of his curator, contributors and collectors are the pith of every book on Indian Birds, and his vast collection is the ground upon which all Indian Naturalists must work. Though differing from him on some points, yet the palm is his as an authority above the rest in regard to the

Ornis of India. Amongst the hundred and one contributors to the Science in the pages of "Stray Feathers," there are some who may be ranked as specialists in this department, and their labors need a record. These are Mr. W. T. Blanford, late of the Geological Survey, an ever watchful and zealous Naturalist of some eminence. Mr. Theobald, also of the Geological Survey, Mr. Ball of the same Department, and Mr. W. E. Brooks. All these worked in Northern India, while for work in the Western portion must stand the names of Major Butler, of the 66th Regiment, Mr. W. F. Sinclair, Collector of Colaba, Mr. G. Vidal, the Collector of Bombay, Mr. J. Davidson, Collector of Khandeish, and Mr. Fairbank, each one having respectively worked the Avifauna of Sind, the Concan, the Deccan and Khandeish.

The country referred to in the following volumes embraces the whole of India, including those recently acquired possessions in (now British) Burmah. Of this latter and most interesting portion of the Indian Empire, Mr. Eugene Oates, of the Public Works Department, has written a connected and detailed account, and it is from the pages of his valuable work I have been able to add much to the knowledge of the Avifauna of the Indian Empire as it now stands. In his Introduction he gives a *resumé* of the Ornithological explorations in that country. Colonel Tickell, whose contributions in the early numbers (1833) of the Asiatic Society's Journal are of much interest, is said to be the first Ornithologist who attempted to work Burmah. His field of work was in Tenasserim, chiefly among the higher hills and mountains to the east of Moulmein, culminating in the peak of Mooleyit, which rises about 6,000 feet above sea level. The late Mr. Blyth, after assuming charge of the Asiatic Society's Museum, found willing contributors in Captain (now Sir Arthur) Phayre, also the late Major Berdmore, Dr. Mason and others. Mr. Blyth's contributions of the birds of this country also swell the pages of the Asiatic Society's Journal, as well as those of the "Ibis." His valuable Catalogue of Burmese Birds was his last contribution, and this was published in 1875 by the late Lord Tweeddale as a posthumous work. The latter, recently known as Lord Walden, also interested himself in the

Ornithology of Burmah, and his valuable papers have also been published as a posthumous work, edited by Captain R. G. Wardlaw-Ramsay, who explored a considerable portion of Pegu.

The following are other particulars given by Mr. Oates of the work done in Pegu. He says: "Turning now (1883) to those who are engaged in active work in connection with Burmese Ornithology, I come to a small band of hardworking field naturalists. Mr. A. O. Hume in his study and Mr. W. Davison in the field have for many years past actively worked Tennasserim." The notes of these Naturalists enrich the pages of Oates' work, as well as of this, culled from both sources.

Other workers in the field of Burmese Ornithology are Mr. W. T. Blanford, Captain Fielden, Dr. Armstrong, Captain Bingham, the late Colonel Lloyd, the late Captain Beavan, Mr. Oliver and Mr. DeWet; also Mr. Hough and Mr. Shopland. The contributions of all these gentlemen are to be found in the pages of "Stray Feathers."

British Burmah, according to Oates, is an irregular, narrow, maritime country, hardly any portion being more than 200 miles from the sea. It lies entirely within the tropics, the most northern portion of Arrakan being at a short distance from the Northern tropic, and the most Southern point of Tennasserim lying on the 10th degree of North Latitude. The general character of the country may be said to be mountainous, the only flat portions being strips of land along the banks of the larger rivers, and considerable areas at the mouths of these rivers.

The whole of British Burmah where not cultivated is covered with dense growth of vegetation. On the elevated portions, the vegetation is composed of large forest trees and bamboos, and on the low alluvial plains, elephant grass of great height. The climate, owing to a heavy rain-fall, is said to be humid, and its effects, to cause the plumage of birds to be of great brilliancy. The same may be said of that portion of the Zoological region which comprises the Himalayas, also Eastern Bengal, and Malabar.

Southern India has been practically worked out by the late Dr. Jerdon. His admirable manual shows the energy he spent in bringing to perfection a system of classification to this day admitted as practically good though not very natural; but, yet the foundation for the past quarter of a century of every work on the Avifauna of India, and if there are any who differ from him in certain views, it is because they live in later times, and follow, though not quite, those who base their classifications on internal as well as external structure.

Classification—according to Jerdon—may be said to be the grouping of objects according to their affinities, and their arrangement into divisions of various degrees of magnitude. Its object is to bring together those beings that most resemble each other, and to separate those that differ. By some it has been regarded simply as a convenient method of arrangement for shortening the labour of the naturalist, who, by its means, instead of studying all the characters which each specimen presents, is enabled, by knowing its general position, to confine his attention to a few of the minor details of structure. His labour is thus simplified by the union into one group of all the animals which agree in the most important and essential characters. The Philosophic naturalist has, however, a higher aim, and his object is to discover the natural system, or in other words, to endeavour to develop the general plan on which the Creator has formed and arranged the numberless species of natural objects.

On comparing certain species with others, we find various degrees of resemblance of structure and general appearance. Those, which are nearest and most close, are called affinities, and the more distant resemblances, analogies; and these are of every degree of nearness or remoteness. The affinities of species may be said to point out their order of succession in nature, and are easily understood and appreciable. Not so, however, the analogies exhibited by many species and groups to others, perhaps very distantly related. These may be resemblances of structure, or of colour, or of habits. Some naturalists explain them by expressing their belief that in every

group, great or small, there are certain types of structure, offering fixed characteristic marks, and that analogies are, simply, the representation in one group of a certain type in another or, to put it in other words, that analogous groups or species simply occupy a corresponding place in their respective classes, orders, or families. This theory of representation has, perhaps, been carried out, to too great an extent, by certain writers, but, nevertheless, it appears to be founded on nature; and the existence of these, often unexpected analogies between distant groups and species, clearly manifests the unity of the plan of the animal creation. According to Mr. Darwin's views, such analogies might be explained on the supposition that the resemblances were due to some remote ancestral origin. The colours and markings of some birds appear to be repeated in other groups; and, in most natural divisions, great variety of form of bills, and also of other parts is exhibited, representing several distinct types; and, in some, more distantly related groups, analogy is shown by habits, by the colour of the eggs, by seasonal change of plumage, &c., &c. Many examples of analogy will be pointed out in the present work.

On beginning at any point in any series of beings, and tracing step by step, the scale of affinities, we soon find that the supposed chain is interrupted, and that branches strike off in various directions. That a linear arrangement is quite impossible has long been conceded universally; but what directions the divergencies take, is not agreed on; nor, indeed, have Zoologists of the present day decided, that there is a fixed plan for any one class, still less that the same system extends through all. Strickland, and quite recently, Wallace, have attempted to show the affinities of some families and orders of birds by means of diagrams.

Certain English Naturalists, and simultaneously, one or more German Botanists, have maintained that, in arranging any series of animated beings, according to their affinities, the tendency is to revert to the point whence they set out, not indeed in an unbroken line, but in a series of circles. Thus, the circular system, as it has been termed, has been strained, perhaps, too far by its exponents, but there is no doubt that in many instances this tendency to a quasi-circular

arrangement appears to exist in nature, and even Wallace's diagrams show this. It appears, however, according to some, that the affinities of the species of any group are various, and cannot be expressed by figures, every natural group and species being connected not with two only, but with several; and it is possible that any natural group, if we possessed all the forms which it comprised, would present links of transition towards all the other groups of the same family or order. Many examples might be given to show the tendency to a circular arrangement, but I shall content myself by pointing out to the student this supposed feature, to verify, or otherwise, in any group he may be studying. Many gaps of course occur in following the chain of affinities, some very great, others easily bridged over. These of course are stumbling blocks in the way of such as believe in a complete chain or circle; and the fossil remains of birds, hitherto discovered, have not been sufficiently numerous to make these intervals much less.

That a special design is exhibited in Creation there can, I think, be but little doubt. It is admitted by almost all, and most fully and unequivocally, in the best known and most highly organized group, the Vertebrata; in all the classes of which a certain archetype of form is preserved, marked and recognizable, however disguised for special ends. It is surely more consonant to our ideas of a Creator to believe that He formed His numberless creatures with certain relations to each other, than to conceive that each was brought to life independently. Indeed, a follower of Darwin might fairly argue that the evidence of design is as clearly shown by the theory of the transmutation of species, as by that of separate individual creation; but Darwin himself, perhaps, lays too much stress on external and fortuitous circumstances as producing varieties, and not enough on the inherent power of change, which, as he clearly shows, is now and then exhibited by various organic bodies.

That species were created at hap-hazard, without any reference to others, either of the same group or more distant ones, is a doctrine so opposed to all the affinities and analogies observed throughout the animated world, that the mind refuses to accept it, and intuitively acknowledges the evidence of design.

That a certain system has been followed, if we allow design at all, must be admitted, but the exponent of the *natural* system—Sharpe, Gadow, Seebohm and others too numerous to mention notwithstanding—has yet to appear. “The tendency of the present age is to accumulate facts, and not to generalize, but we have now a sufficiency of facts, and want our Lyell to explain them.”

By the consent of most naturalists, all objects of nature are divided into kingdoms, sub-kingdoms, classes, orders, families, and genera, and, in some cases, where the families are numerous, tribes, sub-families, and sub-genera are added. Birds are a class of the sub-kingdom Vertebrata, of the Animal kingdom. The Orders of birds are founded chiefly on the form of the bill, and more especially of the feet. Families are characterized by more minute distinctions of the bill and feet, together with characters drawn from the wings, tail, and certain habits, more or less common to all. A genus comprises one or many species closely resembling one another in the structure of bill, feet, wings and tail, and in habits, yet differing, it may be, in colour, size, or some minute differences of structure. To give a familiar example, the European Kite and the common Kite of India are species of the same genus, *Milvus*; and the English Kingfisher and the little Indian Kingfisher, are separate species of the same genus *Alcedo*, each of these genera containing several species. Of late years genera have been greatly divided and multiplied, some of them being classed as sub-genera; but, in practice, and till the whole realm of Ornithology is presided over by a master hand, no distinction can be satisfactorily pointed out, or acted on. When the families of any order are very numerous, they are classed in tribes; and when the genera of any family are numerous, or comprise several distinct forms, they are grouped into sub-families.

In every natural assemblage of forms, whether it be genus, family or order, there is some one form which presents the characters that are common to all, in a more remarkable and complete manner than the rest; and this is called the type of the group. Thus each genus has its typical species; each family its typical genus, and so on; the type being, in each instance, that form to which our minds naturally revert as best exhibiting the characters that belong to the

entire group. Some are very close to the type, others differ from it to such a degree that we might have failed to recognise the connection, were it not for the presence of intermediate links. These are called aberrant forms.

It may be asked, are the divisions, which are here indicated, natural, *i.e.*, marked out by nature, or, in other words, designed? That some of them are so, we may, I think, safely infer from the example already quoted of the Vertebrata. Here we have at least four, some say five, great divisions marked out by nature so broadly that the distinctions are in most cases recognizable and patent to all; and, in each of these classes so clearly marked, that there are certain divisions apparent even to the uninstructed; such, for example, among birds, are the Birds of Prey, Owls, Finches, Game birds. Ducks, &c., &c. Many genera, too, are undoubtedly exceedingly natural and clearly defined; and on the whole, I think, we may conclude that Nature herself (could we but correctly read her lessons) has pointed out most of the divisions; or, in other words, has varied each group, small as well as great, in a certain and definite method. Many natural divisions however appear to grade into each other, and have no definite limits; yet, for purpose of study, we must assign limits and characters; and the affinities, by which they are grouped, must be judged of by as many and as constant characters as possible, derived from all parts; but certain typical characters must be assigned.

There are at present above 8,000 species of birds known and described, though much of the civilized world has yet to be explored. When this has been done, what the number may be it is difficult to conjecture, but this large number has been arranged by Naturalists into six large orders, founded entirely on the organs of manducation and prehension. These are:—

- I.—Raptores, or birds of prey.
- II.—Insessores, or perching birds.
- III.—Gemitores, or pigeons.
- IV.—Rassores, or game birds.
- V.—Grallatores, or waders.
- VI.—Natatores, or swimming birds.



Though this is the basis of classification, there is a tendency in the present day to split and divide these, and to upset the order of arrangement, owing to structural and external characters combined, being made the basis, hence we see the *Raptores* placed after the Parrots, and the *Passeres* holding the first place, as in the following rather mixed arrangement :—

I. *Passeres*; II. *Macrochires*; III. *Pici*; IV. *Coccyges*; V. *Psittaci*; VI. *Striges*; VII. *Accipitres*; VIII. *Steganopodes*; IX. *Herodiones*; X. *Anseres*; XI. *Columbæ*; XII. *Gallinæ*; XIII. *Geranomorphæ*; XIV. *Limicolæ*; XV. *Gaviæ*; XVI. *Tubinares*; XVII. *Pygopodes*. It is needless to defend this system; it cannot be done; the oldest system must survive.

*Raptores*, or birds of prey, are distinguished by their crooked bill and claws, by means of which they are enabled to overcome, and in the order of nature to prey upon other birds and small quadrupeds, to keep that necessary balance so needful. They hold the same rank among birds as the *Carnivora* among the quadrupeds. They are divided into two families, the diurnal and nocturnal, the latter being the owls, which issue at dusk. The diurnal species are the eagles, vultures, kites, falcons, hawks, &c. They are readily distinguished by having their nostrils placed in a naked skin or cere, and their feet bearing three toes before and one behind and their eyes placed laterally; while the *Striges*, or nocturnal species, have their nostrils covered with stiff hairs, the outer toe reversible; eyes large, and directed forwards. The Passerine birds form the largest class. They are all very nearly alike in structure, and are divided according to the position of their exterior toe, those having the midtoe united to the middle by one or two joints only; and those with the exterior toe united to the middle one as far as the last joint but one. The next order is that of the Climbers or *Scansores*, with both the outer and great toe directed backwards. Following this are the Gallinaceous birds, or *Rasores* of some: birds of heavy gait, short, rounded wings, heavy flight, such as peafowls, game jungle cock, &c. The Waders or *Grallatores*, comprising the 5th order, are distinguished by the naked tarsus and a portion of their thighs also, their long legs, which they lay back under the tail feathers in

flight. The last are the web-footed birds, as the ducks, characterized by their webbed feet, and generally broad, spathulate bills. A more detailed account of the orders, sub-orders, families and sub-families into which these have been divided will be found under the respective headings in the body of the work, which cannot from its nature have much pretensions to originality.

It is only as a descriptive handbook of the birds of British India, that this work should be regarded. The idea of writing it did not originate wholly with myself, but besides the trouble and inconvenience experienced by me in my official capacity when Curator of the Kurrachee Museum in looking up literature for determining species, there was a general conviction among all my correspondents and numerous working cabinet and field naturalists that a work of this kind in a moderate compass would be welcomed as supplying a desideratum, especially if all the knowledge extant of the birds of British India were put together under one consecutive serial number, so as to remedy the present existing confusion, and simplify identification. Numerous valuable works have been laid under contribution in preparing the work, especially Sharpe, Seebohm and Gadow's Catalogues; Jerdon's valuable Manual; Oates' Birds of British Burmah; Stray Feathers; Ibis; Hume's Nests and Eggs, &c., &c., all of which have been referred to under the synonyms of species, and thus avoiding the use of inverted commas wherever they may have been required. In doing this latter I would crave the indulgence of all authors for the privilege I have taken, of in this way, so largely adding from their valuable works, to the existing knowledge of the Avifauna of British India. I only trust that this small effort will find public favour. It will be made as complete as possible. As the work progresses, everything new to the Ornithology of India will be added, so that future labourers will no longer have to search far and wide, and consult large libraries of books, often too vainly, for what has been already recorded; but in using this work will find it an unpretending manual to guide them in adding to the present accumulation of facts, much which is at present hidden and unknown to science.

In concluding this Introduction, it only remains for me to acknowledge the valuable assistance received in this attempt to collate

the scattered information regarding the Avifauna of British India, into a systematic account, and, as stated in the *Prospectus*, arranged according to the most modern and generally accepted classification. Though seemingly simple, even this little of the 1st volume has involved considerable labour and research. The whole of it cannot well be successfully accomplished without aid. Up to the present very little of this has been received, though the calls have been unceasing, and it has been left for me to work single-handed, assisted by only a few to the best of their abilities, when freed from the weighty cares of their office. Among those to whom I am under special obligation I would mention Mr. W. F. Sinclair, the Collector of Colaba, and Mr. J. Davidson, the Collector of Khandeish, both of whom very kindly furnished me with such specimens as they could obtain from their respective districts. To Lieutenant Henry E. Barnes, D.A.C., I am also indebted for many valuable notes in regard to nidification, &c., while the kindness of Mr. A. O. Hume, C.B., in sending me, some little time ago, a large collection of birds from British Burmah and the Himalayas generally, has helped me considerably in more accurately describing and comparing birds, which till very recently were almost unknown. I have also to acknowledge the assistance received from Mr. Charles Taylor, Superintendent of the Education Society's Press, in generally getting this work through the press with that care and neatness which is evident on every page, and in continuing the publication of the work in anticipation of better results, the total amount of subscription to date being,—including the coloured plates—far less than the cost of production.

Lastly, I have to tender my acknowledgements to Dr. Gerson da Cunha, F.R.A.L., &c., and to Mr. Thomas Lidbetter for assistance given in precisely the most important direction, viz., introduction to the library of the Bombay Branch of the Royal Asiatic Society, where I have the opportunity of consulting several important works which would have been otherwise inaccessible to me.

THE  
AVIFAUNA OF BRITISH INDIA  
AND  
ITS DEPENDENCIES.



ORDER.—PASSERIFORMES.

SUB-ORDER.—PASSERES.

GROUP.—CICHLOMORPHÆ.

Family.—TURDIDÆ.

Sub-Family.—TURDINÆ.

Gen. **Myrmecocichla**.—*Cab.*

Bill moderate, slender, straight, tolerably curving at tip and barely notched; rictal bristles small; wings as in *Saxicola*; 2nd quill generally slightly the longest; tail long, of 12 feathers, and slightly rounded; feet stout; bill *Saxicolina*, black.

**405. *Myrmecocichla fusca* (Blyth), Seebohm, Cat. B. Br. Mus. v. p. 361. *Saxicola fusca*, Blyth, *J. A. S. B.* xx, p. 523; *id.* *J. A. S. B.* xxiv, p. 188. *Cercomela fusca* (Blyth), *Jerd. B. Ind.* ii, p. 134; *Hume, Nests and Eggs, Ind. B.* p. 319; *Butler, Str. F.* 1875, p. 477.—The INDIAN CHAT ROBIN, or BROWN ROCK-CHAT.**

Upper parts chocolate brown, paler on the forehead and ear-coverts; wing coverts and quills dark brown; tail nearly black; under surface of body pale chocolate brown, shading into dark brown on the under tail coverts, axillaries and under wing coverts; bill, legs, feet and claws black; 3rd and 4th primaries sub-equal and longest; second intermediate in length between the sixth and seventh; irides deep brown.

*Length*.—6·5 inches; wing 3·4 to 3·65; tail 2·5; culmen 0·65; tarsus 1·0.

*Hab.*—The Northern Provinces of India. Has been recorded from Saugor in Central India, also from the States of Bhopal, Gwalior and Bundelcund.

Not uncommon in the N.-W. Provinces. Jerdon says it is a permanent resident at Saugor, living among sand-hills and rocks, and rarely or never coming to cultivated ground.

Gen. **Saxicola**.—*Bechst.*

Bill rather flat at base ; nostrils in a membranous groove, opening round ; wings long ; 3rd and 4th quills longest ; tail even ; outer toe longer than inner.



*Head of Saxicola ananthe.*

**406. Saxicola albonigra** (*Hume*), *Blanf. and Dresser, P. Z. S.*, 1874, p. 226 ; *Blf. East. Persia*, ii. p. 153, pl. xi. ; *Seebohm, Cat. B. Br. Mus.* p. 366. *Saxicola alboniger*, *Hume, Str. F.* i. p. 2 (1873). *Dromolæa alboniger*, *Hume, Str. F.* i. p. 185 ; *Murray, Hdbk. Zool., &c., Sind*, p. 146.—**HUME'S PIED STONE CHAT.**

*Adult Male*.—Head, neck, upper back and throat black ; quills dark brown ; under wing coverts and axillaries black ; tail white, with a broad terminal band of dark brown, broader on the two central feathers ; lower back, rump, upper tail-coverts, breast, belly and under tail coverts white ; bill and legs black ; irides dark brown.

*Length*.—7·5 inches, wing 4·25, bill at front 0·65.

*Hab.*—Sind, Beloochistan (Kundilane, Abigoom, Bolan Pass and Bampusht, Kalagan, *Blf.*), South E. Persia, S. Afghanistan (Gulistan, Chaman, Dubrai, and Kandahar). Winters in Sind, and probably also in S. E. Persia.

**407. Saxicola picata**, *Blyth, J. A. S. B.* xvi. p. 131 ; *Bp. Consp.* i. p. 304 ; *Jerd. B. Ind.* ii. p. 131, No. 489 ; *Blf. and Dresser, P. Z. S.* 1874, p. 227 ; *Seebohm, Cat. B. Br. Mus.* p. 367 ; *Blf. Eastern Persia*, ii. p. 153 ; *Hume Str. F.* i. pp. 3, 184. *Dromolæa picata* (*Blyth*), *Gould B. Asia*, pt. xvii.—**THE PIED STONE CHAT.**

Head, neck, back, throat and upper breast black ; quills dark brown, much paler on the under surface ; under wing-coverts and axillaries black ; rump, upper tail coverts, lower breast, under tail coverts and vent white ; the under tail coverts in some specimens with a very faint tinge of buffy ; tail white, the two central feathers black for their terminal half, and the others for about one-fourth terminated with blackish brown ; bill and legs black ; irides dark brown.

The adult female in breeding plumage is earthy brown, slightly paler on the margins of the quills, wing coverts, the chin, upper throat and breast shading into nearly white on the belly and more or less suffused with buff on the under tail coverts; rump and tail as in the male, except that the white is occasionally slightly suffused with buff.

*Length*.—6·25 to 6·5 inches; wing 3·7; tail 2·75; bill at front 0·5.

*Hab*.—Sind, Beloochistan, S. E. Persia, S. Afghanistan, the Punjab. N. W. Provinces, Oudh, and Guzerat. Breeds in Persia and South Afghanistan.

**408. *Saxicola capistrata***, Gould *B. Asia*, pt. xvii. 1865; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 368; *Gray, Handlist B. i.* p. 224. *Saxicola leucomela* (Pall), *apud. Blyth, J. A. S. B.* xvi. p. 131; *apud. Ferd. B. Ind.* ii. p. 131, No. 490. *Saxicola morio*, *Hemp. et Ehr. apud. Blanf. and Dresser, P. Z. S.* 1874, p. 225 (*partim*); *apud. Severtz. Str. F.* iii. p. 429.—THE INDIAN STONE CHAT.

*Adult Male in Breeding Plumage*.—Head and nape greyish white, shading into white on the hind neck and eye stripes; lores, chin, throat, ear coverts, sides of neck, scapulars, back, wing coverts, axillaries and under wing coverts black; quills dark brown, slightly paler on the under surface; rump, upper tail coverts, breast, flanks, belly and under tail coverts white, the latter occasionally suffused with buff; tail white, the two central feathers nearly black for the terminal half, and the remainder tipped with nearly black from a quarter to half an inch; bill and legs black; wings, 3rd, 4th and 5th primaries nearly equal and longest; second, intermediate in length between the 6th and 7th; bastard primary 0·9 to 0·7.

*Length*.—Wing 3·7 to 3·5 inches; tail 2·7 to 2·4; culmen 0·7 to 0·62; tarsus 1·1 to 0·9. *Female* unknown.—(*Seebohm*.)

*Hab*.—North-Western and Central India, and Sind during winter. Breeds in Turkistan and probably Afghanistan also.—(*Seebohm, Cat. B. Br. Mus.* p. 368.)

**409. *Saxicola monacha***, *Rupp. fide Tem. Pl. Col.* No. 359, fig. 1; *id. Syst. Uebers.* p. 58; *Gray, Handlist B. i.* p. 226; *Shelley, B. Egypt*, p. 78; *Sharpe and Dresser, B. Eur.* pt. xvi.; *Blyth and Dresser, P. Z. S.* 1874, p. 227; *Blyth East. Pers.* ii. p. 150; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 369. *Saxicola pallida*, *Rupp. fide Cretzschm, Rupp. Atl.* xxxiv.; *Gray, Handlist B. i.* p. 224, No. 3213. *Dromolæa monacha* (*Rupp.*), *Bp. Consp. i.* 302; *Hume, Str. F.* 1873, p. 186. *Saxicola gracilis*, *Licht. Nom. Av.* p. 35.—THE HOODED STONE CHAT.

*Adult Male*.—General colour black; quills dark brown, paler on under surface; head, nape, upper and lower tail coverts, belly, and flanks white; tail white, except the terminal half of the two central feathers, and the tips of others, which are very dark brown; bill and legs black; irides brown.

*Length*.—7 to 7.25 inches; wing 4 to 4.42; tail from vent 2.75; tarsus 0.9; bill at front 0.62.

*Adult Female*.—General colour very similar to the male, but browner, and the white parts suffused or tinged with buffy.

*Hab*.—Sind, Beloochistan, Persia, Egypt, Nubia and Palestine; wintering in Sind. Said to be resident in Persia and Egypt.

**410. *Saxicola morio*, *Hemp. et Ehr. Symb. Phys.* fol. a. a.; *Dresser, B. Eur.* pt. xxvii. (1874 *partim*); *Dresser and Blf. Ibis* 1874, p. 338; *Blf. East. Pers.* ii. p. 152; *Wardl. Ramsay, Ibis*, 1880, p. 55; *Seebohm, Cat. Birds Br. Mus.* p. 372. *Saxicola leucomela* (*Pall*), *Tem. Man. d'Orn.* i. p. 243; *Gould. B. Eur.* ii. pl. 89; *Gray, Gen. Birds*, i, p. 178; *Bp. Consp.* i. 303; *Severtz. Str. F.* 1875, p. 429. *Saxicola hendersoni*, *Hume, Ibis*, 1871, p. 408; *Hume and Henderson, Lahore to Yarkand*, p. 206, pl. xiii.—The WHITE-HEADED STONE CHAT.**

*Adult Male*.—General colour black; quills dark brown, paler on the under side; head, nape, hind neck, rump, upper and lower tail coverts, breast, flanks, and belly, white; the head and nape tinged greyish; tail white, the two centre feathers black for the terminal half, and the others tipped black from a quarter to half an inch; bill and legs black; irides brown.

*Length*.—Wing 3.9 to 3.6 inches (*Female* 3.6 to 3.45); tail 2.66 to 2.25, culmen 0.7 to 0.6; tarsus 1.0 to 0.85.—(*Seebohm*.) *Female*, like the male, but the upper parts earthy brown.

*Hab*.—Sind, Beloochistan, Persia, Afghanistan, Cashmere, Palestine, and Egypt. Winters in Sind, Arabia, and Abyssinia; and breeds (according to *Seebohm*) in Cyprus, Crimea, Caucasus, Persia, Afghanistan and Turkistan; also in Western Thibet, Mongolia, Siberia, and N. W. China.

**411. *Saxicola opistholeuca*, (*Strickl.*), *Jard. Contr. Orn.* 1849, p. 60; *Blyth, Cat. B. Mus. A. S.* p. 167; *Gray, Handlist B.* i. p. 226; *Blanf. and Dresser, P. Z. S.* 1874, p. 229; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 376. *Saxicola leucura*, *Gmel. apud. Blyth, J. A. S. B.* xvi. p. 131. *Saxicola leucoroides*, *Guer. apud. Jerd. B. Ind.* p. 130. *Saxicola syenitica*, *Heugl. apud. Severtz, Turkest. Jevoin.* p. 65. *Saxicola leucopygia* (*Brehm* ?) *Dresser, Ibis* 1875, p. 337; *Str. F.* vol. viii. p. 473; *Murray, Hdbk., Zool., &c., Sind*, p. 146.—The INDIAN WHITE-TAILED STONE CHAT.**

Entire head, neck, back, throat, breast, belly, wings, and under wing coverts black; quills dark brown; rump, upper and under tail coverts, vent and tail white; the terminal half or a little more of the two central feathers of the tail, and the tips of others from a quarter to half an inch deep, dark brown; bill and legs black; irides dark brown.

*Length*.—6.5 inches; wing 3.75; tail 2.75; bill at front 0.68. *Female*, length—6.5 inches; wing 3.52; tail 2.6; tarsus 0.95 to 0.99.

*Hab.*—Sind, Punjab (at Mooltan and Cheechawutnee), N.-W. Provinces, Beloochistan (Quetta, May 21st), Afghanistan (Chaman), and S.-W. Turkistan. Occurs also in Jodhpore, and probably in Kutch and Kattiawar.

**412. *Saxicola deserti*, Tem. Pl. Col.** pl. 459, fig. 2; *Rupp. Syst. Uebers.* p. 58; *Gray, Gen. B.* i. p. 179; *Bp. Consp.* i. p. 303; *Ferd. B. Ind.* ii. p. 132, No. 492; *Blf. Geol. and Zool. Abyssinia*, p. 362; *Shelley, Birds Egypt*, p. 74; *Blf. East. Pers.* ii. p. 148; *Seebohm, Cat. B. Br. Mus.* vol. v. p. 383. *Saxicola atrigularis*, *Blyth, J. A. S. B.* xvi. p. 131; *Gould, B. of Asia*, pt. xvii. *Saxicola homochroa*, *Tristram, Ibis*, 1839, p. 59; *Heugl. N. O. Afr. B.* i. p. 243; *Shelley, B. Egypt*, p. 75.—The BLACK-THROATED WHEATEAR.

Top of head, neck, back, scapulars, breast and belly buff; upper and under tail coverts very pale buff; chin, throat, lores, behind the eye, and terminal half of the tail black; the two central feathers of the tail with the black for nearly a quarter of an inch higher from the base than the others; basal half of tail feathers and a supercilium from the base of the bill to the nape white; wings and wing coverts dark brown, the secondaries margined on the outer webs with buff; tertiaries lighter, broadly margined and narrowly tipped with buffy, the basal half of inner webs of all margined with white; axillaries and under wing coverts black, some of the feathers white tipped; bill and legs black; irides hazel.

*Length.*—6·75 to 7 inches; wing 3·9 to 4; tail 2·75; tarsus 1 to 1·1; bill at front 0·5.

*Hab.*—Sind, Punjab, N.-W. Provinces, Beloochistan, S.-E. Persia, Afghanistan, E. Turkistan, Arabia, Egypt, Palestine, Nubia. Occurs also in Central India, Deccan, Concan, Kutch, Kattiawar, Jodhpore and North Guzerat.

Seebohm, in his *Cat. B. Br. Mus.*, p. 385, describes—***Saxicola montana*, Gould., B. As.** pt. xvii. from Gwadur, Yarkand and Cashmere. I have a long series of the Desert Chat from Beloochistan, S. Afghanistan, Sind and Sibi in Afghanistan and all have the basal half of the inner webs of quills margined white. *S. deserti* and *S. montana* I believe to be one and the same species, the differences, if any, are due to seasonal changes. In one stage of plumage (autumn and beginning of winter) the edge of the wing is a mixture of buffy white and black, the axillaries whitish, and the black feathers of the throat tipped with buffy white.

**413. *Saxicola chrysopygia*, De Fillippi, Arch. Zool. Genova**, ii. p. 381; *id. Viag. Pers.* p. 347; *Gray, Handlist B.* i. p. 226; *Blf. East. Pers.* ii. p. 151; *Seebohm, Cat. B. Br. M.* p. 389; *Murray, Hdbk., Zool., &c., Sind*, p. 148. *Saxicola kingi*, *Hume, Ibis*, 1871, p. 29; *id. Str. F.* i. p. 187; vii. p. 57.—The RED-TAILED WHEATEAR.



## PLATE.

A dark grey line from the gape to and under the eye; a broad slightly greyish white line from the nostrils over the eye much more conspicuous in some specimens than in others; ear coverts silky rufescent brown; forehead greyish brown; crown, occiput, nape, back and scapulars nearly uniform grey-earthly brown, as a rule only very slightly tinged with rufescent towards the rump, but in some specimens more strongly so; rump and upper tail coverts bright rufous fawn, in some specimens pale rufous buff; tail feathers bright, in some pale ferruginous, with a sub-terminal blackish brown band extending over both webs, and a narrow tipping of rufous white jets in at the shafts for about the tenth of an inch; occasionally on the lateral feathers the black bar is more or less imperfect, the dark band is from 1·1 to 1·4 broad on the central tail feathers, about 0·6 to 0·8 on the feathers next the centre, and 0·4 to 0·6 on the external ones. The tertiaries and most of the coverts are hair brown, broadly margined with pale rufescent; the winglet, primaries, and secondaries, and primary greater coverts are slightly darker hair brown, very narrowly tipped with white, and some of them, the secondaries especially, very narrowly margined with pale rufescent; the chin and upper throat white with a faint creamy tinge; the sides of the neck, behind and below the ear coverts, grey, greyish white and greyish brown, blending on the one side into the colour of the throat, and on the other into that of the back of the neck. The breast and upper abdomen are a very pale rufescent brown, all the tips of the feathers being paler. The centre of the abdomen and vent slightly rufescent white; flanks rufescent fawn; lower tail coverts a somewhat pale buff; wing lining and axillaries pure white; legs and feet black; bill black; irides dark brown.

*Length*.—6·2 to 6·5 inches, expanse 10 to 11·3, tail from vent 2·2 to 2·4; wings, when closed, reach to within 0·7 to 1·5 of end of tail, wing 3·7 to 4·4; the 3rd primary is the longest, the second 0·25, and the 1st 2·0 shorter than the third; the tail is perfectly square; bill, length at front 0·55 to 0·6; tarsus 1 to 1·01; foot, greatest length, 1·15 to 1·3; mid-toe to root of claw 0·55 to 0·65, its claw straight, 0·2 to 0·24.—(*Hume, Str. F.* vol. i. p. 187.)

*Hab.*—Sind, Punjab, N.-W. Provinces, Beloochistan, S.-E. Persia, Afghanistan, Kutch, Kattiawar, Jodhpore and North Guzerat. In one specimen I possess, a female collected at Kurrachee in January, the feathers on the crown of the head are dark shafted, the tertiaries are tipped greyish white, and the edge of wing is also greyish white, with a few dusky spots; the basal third or little more of the inner webs of the primaries, secondaries, and tertiaries narrowly margined with white. *S. ænanthe* is said to migrate as far as N. India, but of this there is nothing positive known.

**414. *Saxicola isabellina*, Cretschm. Rupp. Atl. p. 52; id. Syst. Uebers. p. 58; Bonap. Cons. i. p. 304; Gray, Handlist B. i. p. 225; Bif.**



*Saricola chrysopygia*



and Dresser, *P. Z. S.* 1874, p. 229; Dresser, *B. Eur.* pl. xxviii. 1874; *Blf. East. Pers.* ii. p. 147; Seebohm, *Cat. B. Br. Mus.* vol. v. p. 400. Motacilla stapazina, *Pall. Zoogr. Rosso. As.* i. p. 474; *ex. Willoughby nec.* Motacilla stapazina, *Lin. Saxicola saltator, Menet. Cat. Rais. Cauc.* p. 30; *Severtz, Fevotn. Turkest.* p. 65. Saxicola œnanthe (*Linn.*) *apud. Ferd. B. Ind.* ii. p. 132; *Hume, Str. F.* i. pp. 45, 48, 187; vii. pp. 57, 95, 112; *Murray, Hdbk., Zool., &c., Sind,* p. 148.—The WHEATEAR.

*Adult Male.*—Head, neck, back, and scapulars sandy brown. A stripe from the nostrils, above the eye as a supercilium; the nape white or buffy white, a narrow black stripe below this from the gape to the eye; chin buffy white; throat, breast, and belly pale buff, darker on the breast; rump and upper tail coverts white; under tail coverts also white, tinged with buffy; primaries, their coverts, secondaries and tertiaries brown, margined on their outer webs with whitish or buffy white; the secondaries (in all Sind specimens) tipped with whitish; wing coverts brown, margined with pale rufescent brown; ear coverts rufescent brown; tail white, the terminal half of the central feathers and about one-third of the others dark brown; axillaries and under wing coverts white; bill and legs black; irides light brown.

*Length.*—6·5 to 6·75 inches; wing 3·75 to 4; tail 2·75.

*Hab.*—Sind, Punjab, N.-W. Provinces, Beloochistan, Persia, Afghanistan, Eastern Turkistan, Cashmere, Palestine, Abyssinia, Thibet and North China. Breeds in Asia Minor; winters in Sind, N. W.-Provinces, Punjab, Egypt, Nubia and Abyssinia. Occurs also in Kutch, Jodhpore, Deccan, Kattiawar and North Guzerat.

### Family.—TIMELIIDÆ.

#### Sub-family.—BRACHYPODINÆ.

Rictal bristles scanty or numerous, generally strong; tarsi short, not longer than the length of the bill measured from the gape; legs and feet strong and short; wings moderate; bill variable, more or less wide and depressed at base.

#### Gen. *Ægithina*.—*Vieill.*

Bill moderate; culmen shorter than the tarsus, somewhat compressed, slightly curved and hooked at the tip; rictal bristles scanty, not extending beyond the hind edge of the nostrils, which are apert; wing short and rounded; 4th, 5th, and 6th quills generally sub-equal and longest; tail even and short; tarsi short, scutellate.

This genus contains three good species, *i.e.*, *Æ. viridissima*, *tiphia* and *nigrolutea*, and twice as many races. Mr. Hume, in *Stray Feathers*, 1877, p. 423, and Mr. Sharpe, in *B. M. Cat.*, have both exhaustively treated the subject; and so far, Mr. Sharpe, the latest writer, says that Mr. Hume's conclusions with regard to *Æ. tiphia* and its races are thoroughly borne out by the series of

specimens he has examined. It is scarcely necessary to say that the changes of plumage in "*tiphia*" and its races are still not quite understood. Mr. Sharpe's account of the results obtained by him are given as follows. He says :—

1. *Æ. viridissima* and *Æ. nigrolutea* are both distinct species. *Æ. tiphia* is the most widely spread form, and embraces five races, or sub-species, which cannot infallibly be recognized.

2. The females of all the races of *Æ. tiphia* cannot be recognized one from the other.

3. In Southern India and Ceylon the full-plumaged birds are black on the head and back. Birds with more or less black are found in other parts of the Indian Peninsula and the Burmese countries; but black-backed birds are rather the exception than the rule. In the Malayan Peninsula, however, black-backed birds again occur, not to be distinguished from South Indian specimens.

4. In East Central India there is a black-backed form like *Æ. zeylonica*, but easily distinguished by its paler colouration. This race is noticed by Mr. Hume in *Str. F.*, 1877, p. 439.

5. *Æ. scapularis* from Java never has any black on the males, which appear to resemble the females, excepting in being a little darker on the wings.

6. *Æ. viridis* from Sumatra and Borneo is the *Æ. scapularis* of authors from the abovementioned Islands. From an examination of numerous individuals, I am certain that it never has a black-backed plumage; and it might be considered a distinct species were it not that the adult males can be matched by others from Ceylon in the stage of plumage which they assume before getting the black head and back, but when they are brilliant yellow below with black wings and tail the lores and forehead of *Æ. viridis* is also brilliant yellow. This is peculiar to the adult Bornean birds.

**415. *Ægithina viridissima* (Bp.).** *Tweed, Ibis*, 1877, p. 304, pl. v.; *Sharpe, Cat. B. Br. Mus.* vi. p. 6; *Oates, B. Br. Burm.* i. p. 20. *Iora viridissima*, *Bonap., Consp. Av.* i. p. 307; *Salvad., Ucc. Born.* p. 192; *Hume, Str. F.* v. p. 427; *Hume and Dav., Str. F.* vi. p. 327; *Hume, Str. F.* viii. p. 99.—The GREEN DWARF BULBUL.

*Adult Male*.—Plumage dark grass green above and below, slightly yellower on the abdomen and vent, and lighter on the lower back and rump; lores blackish; a narrow line above the eye and a large spot below it yellow; upper tail coverts and tail black, also the scapulars; wings black, with a double white wing bar formed by the white tips to the greater and median series of coverts; quills black, narrowly edged with green; thighs yellow, the feathers with

black bases, flanks with a silky white tuft; axillaries white; the under wing coverts the same, but washed with yellowish; edge of the wing yellow.

Legs and feet plumbeous blue; claws black; lower mandible, gape and a line on each side of upper mandible dark plumbeous blue; rest of upper mandible black or blackish brown; irides dark to reddish brown. (Hume.)

*Length*.—5·0 to 5·2 inches; wing 2·35 to 2·4; tail 1·8 to 1·9; tarsus 0·7; bill from gape 0·75; culmen 0·65.

The *female* has the upper plumage dark grass green; the tail green, narrowly edged with yellow; lores and sides of the head greenish yellow; wing coverts brown, broadly edged and tipped with pale yellow; quills blackish brown, edged with greenish yellow; ear coverts streaked with yellow; a large tuft of silky white feathers on the flanks; under wing coverts white, washed with yellow; axillaries white.

*Length*.—5·0 to 5·1 inches; wing 2·25; tail 1·6; tarsus 0·7.

*Hab*.—Throughout the Malay Peninsula, and in Borneo and Sumatra. Occurs as a rare straggler in the southern portion of Tenasserim. Mr. Davison procured one specimen in Mergui. It is found chiefly in low brushwood and in mangrove swamps, where it feeds on insects.

**416. *Ægithina tiphia* (Linn.), Hume, *Nests and Eggs*, Ind. B. p. 295; Oates, *Str. F.* v. p. 157; Sharpe, *Cat. B. Br. Mus.* vi. p. 7; Oates, *B. Br. Burm.* i. p. 202. *Motacilla tiphia*, Linn., *Syst. Nat.* i. p. 331. *Motacilla zeylonica*, Gm. *Syst. Nat.* i. p. 964. *Iora zeylonica*, *Ferd. B. Ind.* ii. p. 101, No. 467. *Iora typhia*, *Ferd. B. Ind.* ii. p. 103, No. 468; *Blyth and Wald.*, *B. Burm.* p. 137; *Hume, Str. F.* v. p. 428; *Anders., Yunnan Exped.* p. 660; *Legge, B. Ceyl.* p. 490; *Hume, Str. F.* viii. p. 99.—THE COMMON DWARF BULBUL.**

*Adult Male in summer plumage*.—Lores, forehead, crown and back black, the feathers of the mantle yellowish white at base and showing through; rump greenish yellow; upper tail coverts and tail black, also the lesser wing coverts; the greater coverts black, tipped with white; the median coverts white, the white tipplings forming a double bar across the wing; quills black; the primaries narrowly edged with yellow, and the secondaries fringed with whitish at the tips; sides of the head and neck, lores and eyelids glossy black; lower edge of eyelids, cheeks, ear coverts, chin, throat, breast and under surface of body deep intense, or bright yellow, fading off into paler or greenish yellow on the lower abdomen, vent, under tail coverts and sides: a large tuft of silky white plumes on either flank; thighs yellowish green, with dark brown bases; under wing coverts white, washed with yellowish; axillaries white.

The *female* is yellowish green above, with rather more yellow on the head; mantle long and silky; tail green, with a narrow yellowish edge; wings with two bars across; median coverts dusky green, with broad white tips; greater

coverts blackish, tipped with white; quills dusky blackish, narrowly edged with pale yellowish; lores, sides of the head and face, round the eye and under surface of the body bright yellow, the sides washed with greenish; axillaries and under wing coverts as in the male. In winter the male loses all the black of the upper parts except on the tail and wings, while the immature have not the black even on the wings and tail. Feet and claws plumbeous; iris yellowish, olive grey, or hazel; bill bluish, darker on the culmen.

*Length*.—5·1 to 5·4 inches; wing 2·4 to 2·6; tail 1·85 to 2·0; tarsus 0·7; bill from gape 0·7; culmen 0·6.

*Hab.*—The Punjab (?), N.-W. Provinces, Oudh, Bengal, Rajputana, Central India, the Central Provinces, Kutch, Concan, Guzerat, Deccan, South India, British Burmah, Nepaul, and Sikkim.

The Dwarf or White-winged Green Bulbul is common in all the places mentioned above. Jerdon mentions Nagpore, Saugor, and Jaulnah as some localities. It is a very widely spread species, and, owing to the changes of its plumage is difficult to identify with any degree of certainty. In Assam, Arrakan, Pegu, and Tenasserim it is abundant. Captain Wardlaw-Ramsay met with it in Karenne. In the Indo-Burmese countries, Siam, Cochin-China, and the Malay Peninsula to Singapore, it is abundantly met with. It frequents orchards, low trees and brushwood, active, and restlessly searching the twigs, leaves, and smaller branches for insects, which are its chief food. It does not, according to Jerdon, confine itself to cultivated ground, but is also a denizen of the open spaces of jungles. Its flight is performed by a succession of quick vibrations of the wing, and causes a loud whirring sound. When searching for food it keeps up a continuous loud warble or a peculiar querulous note.

The breeding season of this Bulbul is from May to September, building usually on the upper surface of a horizontal bough at a height of from 10 to 25 feet from the ground. The nest is not unlike that of a *Leucocirca*. It is cup-shaped, but not very compact, with an egg cavity of 2 inches diameter on an average, and lined with fine grass stems. The general structure is of fine fibres and grass, coated on the outside with cobwebs. The eggs, usually three in number, are greyish white, or with a creamy or salmon tinge, streaked with long pale brown, brown or reddish brown markings, confined chiefly to the large end. In shape they are moderately broad ovals and slightly pointed at one end. In size the average may be said to be 0·6 to 0·76 × 0·51 to 0·57.

**417. *Ægithina nigrolutea*, G. F. L. Marshall, Str. F. 1876, p. 410; Hume, Str. F. 1877, pp. 134, 441; id. 1878, p. 454; id. 1879, p. 99; Sharpe, Cat. B. Br. Mus. vi., p. 12.**—MARSHALL'S DWARF BULBUL.

*Adult Male in breeding plumage.*—Forehead, crown, occiput and nape glossy black; chin, throat, cheeks, ear coverts, breast, sides of neck, and a broad half collar occupying the base of the back of the neck and upper back,

intense gamboge yellow. This collar is rarely entirely uniform, as generally a few of the feathers are fringed at the tips with black. Mid-back glossy black, generally with a little of the yellowish bases showing through; rump pale greenish; upper tail coverts and tail black, the tail with all the feathers broadly tipped with white, the white not unfrequently running some distance up the margin of the inner, and in a few cases of the outer webs also. Coverts and tertiaries black, both median and greater coverts broadly tipped with white; primaries and secondaries hair brown, more or less of their outer webs towards their bases blackish and margined, in some very narrowly with white; abdomen pale gamboge yellow, the sides tinged with greenish; wing lining and axillaries and more or less of the inner margins of the quills satiny white; edge of the wings slightly tinged with primrose. (Hume.)

The *females* have the under parts a pale mealy yellow, shaded with olive green. The head is similar, but not quite so light; the nape and entire back similar, but strongly overlaid with olive green. The wings and tail are as in the breeding season, except that the wings have the margins, especially of the tertiaries, very conspicuous and much tinged with pale yellow; that the greater coverts often have pale yellow margins besides the white tips; and that the central tail feathers are almost entirely greyish white, tipped pure white, and with the outer webs in many specimens more or less shaded with ashy or olivaceous ashy. (*Hume, Str. F.* 1877, p. 443.) The soft parts and measurements are not given by Hume.

The range of Marshall's Dwarf Bulbul is given by Mr. Hume as follows: Western India—Kutch, Deesa, Anadra at the foot of Mount Aboo, Sambhur, Koochawun, Agra, Muttra, Delhi, Etawah, Jhansi, Sumbulpoor, Allyghur, Meerut, Saharunpoor. It is not correct to call these places Western India. The present geography or distribution of Provinces would bring the localities quoted under the following districts: Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Central India, Central Provinces, Kutch, and Guzerat.

#### Gen. *Aethorhynchus*.—*Sundev.*

Characters the same as those of *Ægithina* tarsus equalling the length of bill or sub-equal with it.

**418. *Aethorhynchus lafresnayii*, Harl., *Rev. Zool.* 1844, p. 401; Blyth and Wald., *B. Burm.*, p. 137; *Hume, Str. F.* v. p. 423; *Hume and Dav., Str. F.* vi. pp. 328, 516; *Hume, Str. F.* viii. pp. 63, 99; *Oates, B. Br. Burm.* i. p. 204; *Sharpe, Cat. B. Br. Mus.* vi. p. 14. *Iora innotata*, *Blyth. f. A. S. B.* xvi. p. 472. *Phœnicomanes iora*, *Sharpe, P. Z. S.* 1874, p. 427, pl. liv.—LAFRESNAY'S DWARF BULBUL.**



*Adult Male*.—Lores, feathers round the eye, cheeks, sides of the neck and the whole lower plumage bright yellow; flanks with a large tuft of silky white feathers; forehead tinged with yellowish; crown, nape and back greenish yellow, the feathers terminated with black; rump black; upper tail coverts and tail greenish black; wing-coverts and quills black, externally washed with greenish black; the primaries narrowly edged with yellow; under wing coverts and axillaries white, washed with yellowish.

The *female* is dull grass green above with a gloss of oily green, the feathers grey at the base; least wing coverts like the back; median and greater coverts and quills dusky black, washed with green and inclining to pale yellow on the edges; tail, yellowish green, edged with brighter yellow on the inner webs; rest of plumage as in the male. (Sharpe.) Bill dark above, bluish grey underneath; legs bluish grey; iris brown.

*Length*.—5·8 to 6 inches; wing, 2·75 to 2·8; tail, 2·2 to 2·3; tarsus, 0·8; culmen 0·8 to 0·7. (Sharpe.)

*Hab*.—Arrakan and through Tenasserim into the Malay Peninsula as far as Malacca.

Oates says this Dwarf Bulbul is a rare bird in Burmah, except in the extreme southern portion of Tenasserim. Blyth has recorded it from Arrakan. Oates met with it in Pegu. Captain Bingham found it in the Thoungyeen Valley. Davison procured it in Mergui and Bankasoon.

In habits it does not appear to differ from the common Dwarf Bulbul, and Oates adds that it goes about in couples or singly, searching the leaves of trees, and has a fine whistling call.

An allied species is *Æthorynchus xanthotis*, which occurs in Cambodia. It is smaller than *lafresnayii* and has the wing coverts conspicuously tipped and margined with yellow. The ear coverts, too, are bright yellow.

#### Gen. *Chloropsis*.—*Fard and Selby*.

Bill moderate, *longer than the tarsus*, and variable; the culmen keeled and more or less curved; tip bent down and notched; nostrils basal, long; rectal bristles scanty; wing rounded, moderately long; the 4th and 5th quills sub-equal; tail moderate, even.

This genus comprises birds of bright grass green plumage. All are marked or varied with blue and yellow markings about the head, neck, or wings.

**419. *Chloropsis hardwickii*.** *Fard and Selby, Ill. Orn. ii. App. p. 1; Sharpe, Cat. B. Br. Mus. vi. p. 18. Chloropsis auriventris, Deless., Rev. Zool. 1840, p. 100; id. Mag. de. Zool. 1840, pl. 17. Phyllornis hardwickii, Blyth, J. A. S. B. xiii., p. 392; Gould, B. Asia Pt. xiii; Ferd. B. Ind. ii. p. 100, No. 466; Blyth B. Burm. p. 137; Hume, Str. F. 1878, p. 327; id. 1879, p. 99; Scully t. c. 297; Oates, B. Br. Burm. i. p. 206.*—THE ORANGE-BELLIED GREEN BULBUL.

*Adult Male*.—Upper plumage green, yellower on the head, and washed with fulvous yellow on the mantle and back; lores, feathers under the eye, chin, throat, ear coverts and upper breast black; a broad moustachial streak reaching to the end of the ear coverts cobalt; remainder of under surface of body rich ochraceous orange, the flanks slightly washed with greenish; tail dull purple, the inner webs blacker; lesser wing coverts verdigris blue or bright greenish cobalt, forming a shoulder patch; remaining wing coverts purplish blue; secondaries brown on the inner and green on the outer webs; tertiaries and inner greater coverts entirely green; under wing coverts ashy, washed with blue; bill black; legs plumbeous; iris light brown.

*Length*.—7·5 inches; wing 3·8; tail 3·1; tarsus 0·7; culmen 0·9.

The *female* has the upper plumage green like the male, but without any yellowish wash on the head; lesser wing coverts blue; other coverts and tertiaries wholly green; secondaries and primaries brown, edged with green, the first three primaries with a tinge of blue; tail green; moustachial streak cobalt, but not as bright as in the male; sides of the head and neck, chin, throat, and upper breast with the whole of the flanks green, the throat tinged with blue; lower breast, abdomen, vent and under tail coverts orange.

Young birds are entirely green, and the moustache and wing patch are barely indicated. As they mature, traces of the orange belly are seen.

*Hab*.—N.-W. Provinces, and perhaps the Punjab also; East Bengal, British Burmah, Assam, Sikkim, and along the Himalayan range to Nepal. Occurs also in Bhootan, Sylhet, Cachar and Arrakan. It has been got in the Tounghoo Hills and in Karenne at from 3,500 to 4,000 feet elevation. In Tenasserim it is said to be confined to the Mooleyit Mountain and its spurs, where it appears to be not uncommon. Sharpe records it from Nynee Tal, Darjeeling, Khasia Hills and the Karin Hills. Of its nidification nothing appears to be known.

**420. *Chloropsis aurifrons* (Tem.), *Jard. and Selb., Ill. Orn. text.* to pl. c.; *Blyth., J. A. S. B.* xi. p. 458; xii. p. 956; *Ferd., Madr. Journ.* xiii. p. 123; *Sharpe, Cat. B. Br. Mus.* vol. vi. p. 20; *Oates, B. Br. Burm.* i. p. 205. *Phyllornis aurifrons*, *Tem., Pl. Col.* 484, fig. 1.; *Ferd. B. Ind.* ii. p. 99, No. 465; *Ball, Str. F.* 1874, p. 411; *Hume, t. c.* p. 477; *id., Str. F.* 1875, p. 129; *Ball, Str. F.* 1877, p. 417; 1878, pp. 215, 326; vol. viii. p. 99; *Scully, Str. F.* 1878, p. 297. *Phyllornis hodgsoni*, *Gould., B. Asia.* pt. xiii.; *Blanf., J. A. S. B.* xxxii. p. 73; *Blyth and Wald., B. Burm.* p. 137.—THE GOLD-FRONTED GREEN BULBUL.**

*Adult*.—General colour bright grass green; fore-crown brilliant deep orange; lores, eyelids, sides of face and throat black; a superciliary fringe of yellow extends to the ear coverts and skirts the black down the sides of the neck; cheeks and throat deep purplish cobalt; remainder of under surface of body

bright green, lighter in the centre of the abdomen; wings deeper green than the back; lesser coverts cobalt blue, forming a shoulder patch; quills blackish and externally green, shading off into yellowish towards the tips of the primaries; tail dark green; the inner webs dusky; axillaries green; bill black; legs bluish plumbeous; iris dark brown.

The *female* is not unlike the male, but the colours are less vivid.

*Length*.—6·5 to 7·5 inches; wing 2·9 to 3·45; tail 2·4 to 2·6; tarsus 0·7; culmen 0·85.

*Hab.*—The sub-Himalayan region from Dehra Doon to Sikkim, extending to Lower Bengal. It also occurs through Arrakan, Pegu, Assam and Burmah to Tenasserim and Cambodia; also Cochin-China. In Tenasserim, according to Davison, it is common as far south as Amherst, and Captain Bingham states it is abundant in the Thoungyeen Valley. It has also been procured in Karenne. According to Oates, this Bulbul goes in pairs when feeding. Their food consists of insects. The male bird, he says, frequently sits on the summit of a tree and gives utterance to a series of notes, which at times becomes a rather sweet song. They feed a good deal on fruit too and the nectar of flowers. They are not at all shy, and may be met with in gardens and compounds just as frequently as in deep forests.

**421. *Chloropsis malabarica* (Gmel.), Sharpe, Cat. B. Br. Mus.** vi. p. 22. *Turdus malabaricus*, Gmel., *Syst. Nat.* i. p. 837. *Phyllornis malabaricus*, Blyth, *J. A. S. B.* xiv. p. 566; Gould, *B. Asia*, pt. xiii.; *Ferd. B. Ind.* ii. p. 99, No. 464; Fairbank, *Str. F.* 1876, p. 258; Bourdillon, t. c. p. 400; Hume, *Str. F.* 1879, p. 99; Legge, *B. Ceylon*, p. 488.—The MALABAR GREEN BULBUL.

*Adult Male*.—Bright grass green; wing coverts like the back, the lesser series bright greenish cobalt, forming a shoulder patch; quills blackish, externally green, and edged with brighter green; tail dull green, the inner webs blackish; forehead bright orange; no orange across the foreneck, which, like the breast, is green; lores, a circle of feathers round the eye and below it, under part of the cheeks as well as the entire thorax black; ear coverts and sides of neck green; moustachial streak cobalt; under surface of body light green; edge of the wing blue; bill blackish; legs and feet plumbeous; irides light yellow brown.

*Length*.—7·3 to 7·5 inches; wing 3·5 to 3·75; tail 2·7 to 3; tarsus 0·8; culmen 0·9.

The female is smaller and has the forehead green, and the throat patch and moustachial stripe smaller.

*Hab.*—The forests of Malabar and Southern India, occurring also in Travancore, on the Eastern Ghauts, forests of Central India, and throughout the northern half of Ceylon. Jerdon mentions it from Wynaad, Coorg, and on the

sides of the Neilgherries up to about 4,000 feet elevation. It has also been reported from the Deccan. In its habits the Malabar Green Bulbul does not differ from the last.

**422. *Chloropsis zosterops*, Vig., *App. Mem. Life Raff.* p. 674; *Sharpe, Cat. B. Br. Mus.* vi. p. 24; *Oates, B. Br. Burm.* i. p. 207. *Phyllornis sonneratti*, *apud, Salvad. Ucc. Born.* p. 193; *Sharpe, Ibis*, 1877, p. 15. *Phyllornis javensis* (*Horsf.*), *apud, Blyth, B. Burm.* p. 136; *Hume and Dav., Str. F.* vi. p. 324; *Hume, Str. F.* viii. p. 99.—THE MALACHITE-SHOULDERED GREEN BULBUL.**

*Adult Male*.—Whole upper plumage, wing coverts and tertiaries bright green; a patch on the lesser wing coverts malachite-green; other wing coverts bright green; quills dusky blackish, broadly edged with bright green; tail green, the inner webs of all but the central pair of feathers brown towards the outer edge; lores, feathers above the nostrils, a narrow line above and round the eye, the cheeks, chin and throat black; ear coverts and a line along the black of the throat on each side paler green than the back; moustachial streak deep violet cobalt, under surface of body bright green, also the axillaries and edge of wing, but darker; under wing coverts ashy, washed with greenish at the tips; legs, feet and claws pale plumbeous; bill black; irides brown, dark brown or crimson; eyelids blackish grey.

*Length*.—7·5 to 8·5 inches; wing 3·85 to 3·9; tail 2·6 to 3; tarsus 0·75; culmen 0·85.

The *female* has not the black throat of the male; the shoulder patch is emerald green; the moustachial streak very small.

*Hab.*—Central and Southern Tenasserim, through the Malay Peninsula to Sumatra, Borneo and Malacca.

**423. *Chloropsis jerdoni* (*Blyth*), *Sharpe, Cat. B. Br. Mus.* vi. p. 26; *Jerd., Madr. Journ.* xiii. pt. 2, p. 124. *Phyllornis jerdoni*, *Blyth, J. A. S. B.* xiii. p. 392; *Jerd., B. Ind.* ii. p. 97, No. 463; *Holdsw. P. Z. S.* 1872, p. 451; *Ball., Str. F.* 1874, p. 410; *Hume, Nests and Eggs, Ind. B.* p. 294; *Fairbank, Str. F.* 1876, p. 259; *id.* 1877, p. 406; *Ball., t. c.* p. 215; *Hume, Str. F.* 1879, p. 99.—JERDON'S or the COMMON GREEN BULBUL.**

Above light grass green; the head dull yellow, shading into the emerald green of the occiput and nape; anterior edge of eyelid and lores black, also the feathers below the eye, the cheeks and throat; ear coverts dull yellow, separated from the black throat by a similar band which extends from behind the eye down the sides of the neck on to the lower throat, where it forms a gorget; moustachial streak violet cobalt; shoulder patch turquoise blue; quills blackish brown, edged externally with green, the primaries yellow towards the tips of the outer webs; inner secondaries green; tail green; under plumage

emerald green, deeper on the sides ; under wing coverts and axillaries green, with greyish bases ; edge of wing emerald green ; bill blackish ; legs and feet plumbeous or pale lavender ; iris brown or pale brown. (Legge.)

*Length*.—7·8 inches ; wing 3·45 ; tail 3 ; tarsus 0·75 ; culmen 0·8.

The *female* has not the black throat, which is pale turquoise blue, and is much smaller.

*Hab.*—The greater part of the Continent of India, but does not extend to Lower Bengal or the sub-Himalayan districts. It is common in Ceylon, also, according to Jerdon, in the Western Provinces of India and in the jungles of the Eastern Ghauts. In the open country of the Carnatic, Travancore, Mysore, and Hyderabad it is said to be rare, but not so in Central India, at Mhow, Saugor, &c., and through the jungles of Chota Nagpore up to Midnapore.

Its habits are quite those of the other species.

Tickell says it is an excellent mocker, and imitates the notes of almost every small bird of the country.

The Common Green Bulbul breeds in July and August, but eggs have been taken in different parts during April, May, and June also. The nest is a shallow cup composed entirely of vegetable fibre worked over fine roots or stems. The eggs are rather elongated ovals, white or creamy white in colour, and sparingly marked, chiefly at the large end, with specks, spots and minute blotches, lines, &c., of blackish and reddish or purplish brown ; in size they vary from 0·8 to 0·92 × 0·56 to 0·63.

**424. *Chloropsis chlorocephala* (Wald.), Sharpe, Cat. B. Br. Mus.** vi. p. 28 ; *Oates, B. Br. Burm.* p. 208. *Phyllornis chlorocephala*, Wald., *Ann. Nat. Hist. Ser.* 4, vii. p. 241 ; *Blyth, B. Burm.* p. 137 ; *Hume, Str. F.* iii. p. 127 ; *Hume and Dav., Str. F.* vi. p. 323 ; *Hume, Str. F.* viii. p. 99.—THE BURMESE GREEN BULBUL.

*Adult Male.*—(Type of species : Tounghoo). Above grass green, the forehead rather lighter and more emerald green, shaded with golden on the crown, nape, sides of the neck and hinder neck ; base of forehead, eyebrow and eyelid yellow ; lores, anterior edge of eyelid, feathers below the eye, cheeks, chin and throat black ; sides of crown emerald green, also the ear coverts, which are shaded with golden and separated from the black throat by a broad band of yellow, which crosses the ear coverts and hinder cheeks and descends on to the foreneck, where it forms a gorget, which is faintly shaded with emerald green ; forepart of cheeks with a small violet cobalt moustachial streak ; wing coverts darker green than the back ; lesser wing coverts bright cobalt blue, forming a shoulder patch ; bastard wing and primary coverts deep blue, rather lighter blue on their margins ; quills blackish, the primaries externally bright blue, the secondaries bluish green

edged with brighter green, the inner secondaries entirely grass green; tail dull blue, the centre feathers grass green; under surface of body emerald green, slightly yellowish green on the breast; axillaries and under wing coverts emerald green with greyish bases. (Sharpe.) Bill black; legs slate colour; iris umber brown. (Wardlaw-Ramsay.)

*Length.*—6·6 to 7·1 inches; wing 3·3 to 3·4; tail 2·7 to 2·8; tarsus 0·65 to 0·8; culmen 0·8 to 0·85.

The *female* wants the black on the throat and the yellow on the sides of the head; the yellow band encircling the black is absent; the forehead and lores as well as the feathers round the eye are emerald green, with a slight tinge of blue in front of the eye. It is also smaller than the male.

*Length.*—6 inches; wing 3·05.

*Hab.*—Hill country of the Indo-Chinese sub-region from Pegu and Tenasserim through Burmah (Tounghoo and Karenne), and Cachar to Cochin-China. (Sharpe.) According to Oates, it is stated to have been found in Arrakan; also abundantly in all the higher hills of Pegu where the forest is evergreen, but is not, he thinks, found in the plains. Davison found it very common throughout Tenasserim, and Captain Bingham in the Thoungyeen Valley. To the south it has been found in the Malay Peninsula, extending east to Cochin-China. It has also occurred in the Garo Hills in Eastern Bengal.

**425. *Chloropsis cyanopogon* (Tem.), Sharpe, Cat. B. Br. Mus.** vi. p. 32; *Oates, B. Br. Burm.* i. p. 209. *Phyllornis cyanopogon*, *Tem. Pl. Col.* 512, f. i.; *Salvad. Ucc. Born.* p. 194; *Hume and Dav., Str. F.* vi. p. 325; *Hume, Str. F.* p. 99.—The BLUE-WHISKERED GREEN BULBUL.

*Adult Male.*—Above bright grass green; wing coverts and sides of the neck like the back; lesser coverts rather brighter green, but not forming a bright or distinct shoulder patch; forehead tinged with yellow; lores, anterior edge of eyelid, feathers below the eye, cheeks, chin and throat black; moustachial streak cobalt; a line bordering the black throat green, tinged with yellow; quills dusky blackish, externally green like the back, the primaries yellowish towards the tips of the outer webs; tail dark green, dusky blackish on the inner webs; under surface of body bright green, more yellow on the foreneck, breast, abdomen, thighs and under tail coverts; axillaries green with greyish bases; under wing coverts ashy, washed with yellowish green; legs and feet dark plumbeous; bill black; irides dark-brown.

*Length.*—6·2 to 7 inches; wing 3·05 to 3·3; tail 2·6 to 2·65; tarsus 0·65 to 0·7; culmen 0·75.

*Hab.*—Borneo, Sumatra and the Malay Peninsula, ranging into the extreme south of the Tenasserim Province, where, at Bankasoon, Mr. Davison obtained the bird. Nothing is known of its nidification.

*C. icterocephala* is another species which is close to *chlorocephala*, but this, till now, is only known from the Malay Peninsula. The crown of the head is rich golden fulvous, and the forehead and band encircling the throat pure yellow.

**Sub-family.—PYCNONOTINÆ.**

Head generally crested or sub-crested. Plumage usually full, and with hairs or bristles arising in many instances from either the head or nape. Sexes usually alike and plain in colour. Inhabitants of forests, jungles, orchards and groves. Food—fruit and insects.

**Gen.—Hypsipetes.—Vigors.**

Bill moderately long, nearly straight; culmen very slightly arched; nostrils long, with a few scanty hairs at base; wings longer than in *Chloropsis*; 4th and 5th quills generally the longest, 3rd sub-equal; tail long, square, emarginate; legs and feet short; tarsi not scutellate in front.

**426. *Hypsipetes psaroides*, Vigors, P. Z. S. 1831, p. 43; Gould, Cent. Him. B. Pl. 10; Jerd. B. Ind. ii. p. 77, No. 444; Hend. and Hume, Lahore to Yarkand, p. 198; Blyth, B. Burm. p. 132; Hume and Dav., Str. F. vi. p. 296; Hume, Str. F. viii. p. 98; Scully, t. c. p. 293; Sharpe, Cat. B. Br. Mus. vi. p. 36; Oates, B. Br. Burm. i. p. 173.—THE HIMALAYAN BLACK BULBUL.**

*Adult Male*.—Head and nape glossy greenish black, the feathers lanceolate in shape and forming a conspicuous crest; ear coverts and a spot at the base of the nostrils hoary grey; lores, a spot at the base of the lower mandible, another at the angle of the chin, forepart of eyelid, and a streak under the ear coverts black; chin, throat, breast and flanks grey; abdomen and vent whitish, the feathers being pale grey with white margins; under tail coverts grey with broad white edges; under wing coverts and axillaries light ashy brown with indistinct white tips; back and least wing coverts light slaty grey; the median and greater coverts, also primary coverts, more ashy grey, but externally edged with light slaty like the back; quills dusky brown, externally light grey; tail blackish brown, edged with light slaty grey towards their base; bill and feet bright coral red; irides dark brown; claws horny brown.

*Length*.—9·5 to 10 inches; wing 4·6 to 5; tail 3·85 to 4·4; tarsus 0·7 to 0·75; culmen 1.

*Hab*.—The Himalayan Black Bulbul inhabits the whole range of the Himalayas from Cashmere to Assam and Arrakan. It has been found at Simla, in Kumaon, Nepaul, Darjeeling, Bhootan and Assam, also Punjab, N.-W. Provinces, Oudh and Bengal, and probably occurs in the hill tracts of the Indo-Burmese countries. It is, according to Dr. Scully, a sociable bird, but in the breeding season it is said to be fearless and noisy, and to imitate the songs of other birds. Usually this species is found in large flocks during spring and

winter, frequenting the tops of trees, searching for fruit and insects from flower-laden trees. The nest is a large cup-shaped structure of grass and leaves, and is generally placed in the fork of a branch of a tree. Eggs usually four, pinkish white or purplish white, or rosy sprinkled with claret red, or purple specks and spots. April to July is the breeding season.

**427. *Hypsipetes concolor*, Blyth. *J. A. S. B.* xviii. p. 816; *Blyth and Wald.*, *B. Burm.* p. 132; *Hume and Dav.*, vi. p. 295; *Hume, Str. F.* viii. p. 98; *Bingham, Str. F.* ix. p. 181; *Sharpe, Cat. B. Br. Mus.* vi. p. 38; *Oates, B. Br. Burm.*, i. p. 174. *Hypsipetes yunnanensis*, *Anders. P. Z. S.*, 1871, p. 213. *Hypsipetes subniger*, *Hume, Str. F.* v. p. 109.—THE BURMESE BLACK BULBUL.**

Like *H. psaroides*, but darker, the whole back between the scapulars, the lesser coverts, the cheeks and sides of the neck being black. Legs, bill, and feet from bright to deep coral red; irides dull crimson.

*Length*.—10 inches; tail 4.5; wing 5; tarsus 0.7.

*Hab.*—According to Davison, the Burmese Black Bulbul is found in Tenasserim, from the extreme north down to Meetan at the foot of the Mooleyit Mountain, but it does not ascend to the summit of the highest hills, Captain Ramsay found it at Tounghoo, and also in the Karin Hills, and Captain Bingham in the Thoungyeen Valley. Out of British Burmah, Oates says, it has only been found in the east of Bhamo and in the Khasia Hills. Like other species of the genus it goes about in small flocks.

Sharpe says "it is not easy to draw the line between *H. psaroides* and this species, and although Assam specimens are referable to *H. psaroides* rather than this species, there can be no doubt that they are slightly intermediate between the two. Mr. Hume at one time considered this species as distinct, and named it *H. subniger*, but he has now retracted his decision. To me it appears that *H. concolor* and *H. ganeesa* are only provincial or local races or varieties of *H. psaroides*, and can scarcely be distinct species. *H. psaroides* may be said to be the Himalayan form, *H. concolor* the Burman form, and *H. ganeesa* the more southern form extending into Ceylon, and all three should be placed under one specific name; shades of colouring and slightly variable dimensions can hardly be allowed as characters for making specific differences, though there is more than these to speak for *ganeesa* than for *concolor*.

**428. *Hypsipetes ganeesa*, Sykes, *P. Z. S.* 1832, p. 86; *Jard. and Selb.*, *Ill. Orn. 2nd Ser.* iv. pl. 2; *Blyth, J. A. S. B.* xiv. p. 574; *Ferd. B. Ind.* ii. p. 78; *Fairbank, Str. F.* 1876, p. 258; *Hume, t. c.* p. 400; *id.*, *Str. F.* 1879, 598. *Hypsipetes nilgherriensis*, *Ferd. Madr. Journ.* 1839, p. 245; *Ferd. B. Ind.* ii. p. 78, No. 446; *Hume, Nests and Eggs, Ind. B.* p. 280; *id.*, *Str. F.* 1873, p. 438; *Fairbank, Str. F.* 1877, p. 405.—SYKES' BLACK BULBUL.**



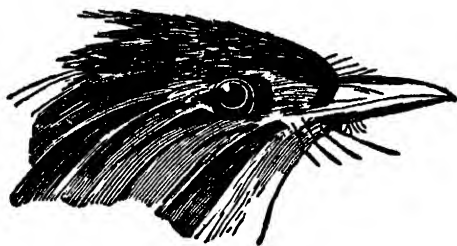
Above dark slaty grey or grey brown, paler beneath, wings and tail brown; head subcrested metallic black; sides of face slate grey, no black stripe on cheek; bill coral red or orange vermillion in skin; feet orange yellow.

*Length*.—8·5 to 9 inches; wing 4·5; tail 4 to 4·15; tarsus 0·7 to 0·75; culmen 1 to 1·1.

*Hab.*—Hill ranges of Southern India, extending on the western side along the Western Ghats to the Mahableshwar Hills and to Matheran and Ceylon. Sykes' Bulbul breeds from March and April to June. The nest is placed in some dense clump of leaves or parasitic plant (in Southern India), which covers nearly every acacia and other tree. It builds a cup-shaped nest, neatly and firmly made of green moss, grass, stalks and fibres. Eggs similar to those of *psaroides*; 1·0 to 1·7 × 0·7 to 0·8. *Hypsipetes virescens*, a species with a dull olive greenish upper surface, white throat and pale yellow under surface, streaked with brighter yellow, and with a horny brown bill, is an inhabitant of the Nicobar Islands.

#### Gen. **Hemixus**.—Hodgs.

Bill moderately slender; rictal bristles strongly developed, reaching much beyond the nostrils; culmen very slightly arched, longer than or equalling the tarsus; nostrils oval, with a distinct superior membrane; tarsus strong, smooth, without scutes, or a subterminal one only; tail moderately long, even, almost emarginate, square; wings with the 5th and 6th quills longest; toes short, unequal; claws much curved.



*Head of Hemixus flavala to show pointed form of crest plumes.*

**429. Hemixus flavala**, Hodgs., *Icon. ined. in Br. Mus., Passeres* pls. 190, 191, fig. 2; *id.*, *J. A. S. B.* xiv. p. 572; *Jerd. B. Ind.* ii. p. 80, No. 448; *Godw.-Austen*, *J. A. S. B.* xxxix. p. 106. *Blyth, B. Burm.* p. 133; *Hume, Str. F.* 1877, p. iii.; *id.*, 1879, p. 98; *Scully, t. c.* p. 295; *Sharpe, Cat. B. Br. Mus.* vi. p. 49; *Oates, B. Br. Burm.* i. p. 175.—**THE BROWN-EARED BULBUL.**

*Adult.*—Upper plumage with the lesser and median wing coverts dark ash, the upper tail coverts tinged with olive green; bastard wing and primary coverts and quills dark brown, the outer greater ones and the secon-

daries externally olive yellow, forming a longitudinal band down the wing; the primaries only slightly edged with dull yellow on the outer web; tail dark brown, edged with olive yellow near the base of the outer web; head crested with pointed hair-like feathers; lores dusky; ear coverts bronze brown; below the eye and cheeks black; chin, throat, centre of abdomen and vent white; breast, sides of neck and flanks light grey; under wing coverts and axillaries white, the latter washed with yellow; bill black; feet dusky; irides dark reddish brown.

*Length*.—7·2 to 8 inches; wing 3·85; tail 3·55; tarsus 0·7 to 0·75; culmen 0·75.

*Hab.*—The Himalayas from between Simla and Mussoorie eastward to Bhootan and apparently to the head of the Assam Valley. Found also in the Khasia Hills and British Burmah. It has been recorded from Arrakan by Blyth, and Oates procured specimens from the hills in that Division. Dr. Anderson got it in Ponsee on the Kakhyen Hills. It extends through the Indo-Burmese countries into Assam. Jerdon records it from Darjeeling, and Sharpe from Nepaul. Jerdon says it associates in small parties, feeds on berries and insects, and has a loud warbling note.

**430. *Hemixus hildebrandti*, Hume, *Str. F.* 1874, p. 508; *Wald. in Blyth, B. Burm.* p. 133; *Hume, Str. F.* v. p. iii; *Hume and Dav., Str. F.* vi. p. 299; *id.*, viii. p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 50; *Oates, B. Burm.* i. p. 176.—HILDEBRANDT'S BROWN-EARED BULBUL.**

"*Adult Female* (type of *H. brunneiceps*, *Wald*; Karin Hills, 2,000 feet, January 10th, 1875, R. G. Wardlaw-Ramsay). General colour above dark ashy grey, washed with brown on the back; upper tail coverts and tail brown, the feathers edged with dull olive yellow; the tail feathers white along the inner web; wing coverts blackish brown, the median series slightly, and the greater coverts and quills broadly margined with yellow, imparting a yellow aspect to the wing; primaries hoary grey towards the ends of the outer webs; *crown of head and nape blackish brown*; lores, feathers below the eye and the fore part of the cheeks black, the hinder part of the cheeks grey like the sides of the neck; ear coverts light earthy brown, with an ashy brown lustre contrasting with the adjacent parts; throat white, as also are the abdomen, thighs and under tail coverts; foreneck, breast and sides of the body ashy grey; under wing coverts and axillaries white, faintly washed with yellow; bill black; legs light brown or pinkish brown; irides lake or lake brown." (R. G. Wardlaw-Ramsay; MS.)

*Length*.—7·5 inches; wing 3·9; tail 3·65; tarsus 0·6; culmen 0·75. (Sharpe.)

The adult male is like the female in colour, and larger.

*Length*.—8·5 inches, with a wing of 4·0 and tail 3·7.

*Hab.*—Hildebrandt's Brown-eared Bulbul occurs throughout the hills of Northern Tenasserim from the Karin Hills north of Tounghoo to close to Pahpoon. Oates says it was procured by Davison in the pine forests of the Salween districts in Tenasserim at an elevation of 300 feet. Captain Ramsay's specimens are from further north. Nothing has been noted about its habits.

**431. *Hemixus davisoni*, Hume, *Str. F.* 1877, p. 111; Hume, and Dav., *Str. F.* 1878, p. 299; Hume, *Str. F.* 1879, p. 98; Sharpe, *Cat. B. Br. Mus.* vi. p. 51; Oates, *B. Br. Burm.* i. p. 176.—DAVISON'S BROWN-EARED BULBUL.**

*Head* (entire cap), *back*, wings and tail *rich full brown or warm brown*, deepest on the head and mantle, slightly paler on the nape, and with a decided grey tinge on the rump, where it forms a well-defined band; lores, base of lower mandible, under the eye and under the ear coverts deep brown, almost black, but not so black as in *flavala* and *hildebrandti*; winglet, first six primaries and their greater coverts, also the tail feathers, without a trace of any yellow margin; the later primaries, secondaries and tertiaries, and their greater coverts, very narrowly margined with bright olive yellow about one third the width of those in *flavala* and one half the width of those in *hildebrandti*; chin and throat pure white, conspicuously limited by the dark streak on either side; sides of the neck, behind the ear coverts, upper breast, sides and flanks a delicate ash-grey; middle of lower breast, abdomen, vent and lower tail coverts with a more or less faint ashy shade; under wing coverts with a faint yellow tinge near the carpal joint; bill and claws black; legs and feet reddish brown; irides crimson lake. (Hume.)

*Length.*—8.5 inches; wing 4.04; tail 3.6; bill from gape 0.95. (Hume.)

*Hab.*—The Central Tenasserim hill regions. The type, the only specimen apparently procured by Mr. Davison, was shot at Thoungya Sakan in Tenasserim.

**432. *Hemixus malaccensis* (Blyth), Sharpe, *Cat. B. Br. Mus.* vi. p. 53; Oates, *B. Br. Burm.* i. p. 177. *Hypsipetes malaccensis*, Blyth, *J. A. S. B.* xiv. p. 574; *Salvad. Ucc. Born.* p. 202; Hume and Dav., *Str. F.* vi. p. 298; Hume, *Str. F.* viii. p. 98; Sharpe, *Ibis*, 1879, p. 256. *Trichophorus striolatus*, *Bp. Conspectus* i. p. 262 (*ex. Mull. MS. in Mus. Lugd.*).—THE STREAKED BULBUL.**

Whole upper plumage olive or brownish green; wings and tail dark brown, edged with the olive or brownish green of the back; sides of the head and neck like the back; lores and feathers under the eye ashy grey; ear coverts brownish green, streaked with dusky whitish; cheeks, chin, throat, breast and sides of the body ashy with broad greyish white shaft streaks, less distinct on the latter; abdomen, vent and under tail coverts white, the latter slightly tinged with yellowish; thighs washed with olive brown; under wing coverts

and axillaries pale yellow; legs and feet pinkish brown to reddish brown; bill horny brown; irides mahogany brown or litharge red. (Hume and Davison.)

*Length*.—9 inches; wing 4·4; tail 3·7; tarsus 0·7; culmen 0·95.

The *female* is smaller, and alike in colour.

*Hab.*—Hills south of Mergui in Tenasserim; southwards to the Malayan Peninsula, Sumatra, and Borneo, and, according to Dr. Tiraud, Cochin-China. Davison states that the habits of this bird is not unlike those of *Iole tickelli*.

#### Gen. *Iole*.—*Blyth*.

General characters same as those of *Hemixus*. Bill long and rather broad, broader than high at the nostrils; wings as in *Hemixus*; tail rounded; feathers of the head pointed, and forming a more or less distinct crest. *There is no banded tuft of feathers on the lower back as in Pinarocichla.* (Sharpe.)



*Head of Iole viridescens.*

**433. *Iole viridescens*, Blyth., Ibis, 1867, p. 7; id., Blyth and Wald., B. Burm. p. 133; Hume and Dav., Str. F. 1878, pp. 315, 516; Hume, Str. F. 1879, p. 98; Sharpe, Cat. B. Br. Mus. vi. p. 56; Oates, B. Br. Burm. i. p. 177. *Iole virescens*, Blyth, J. A. S. B. xiv. p. 573.—The SMALL OLIVE BULBUL.**

Above dull olive or olive brown, the head darker and with the feathers pointed; *wings dark brown, edged on the outer web with the colour of the back or a little brighter*; upper tail coverts and tail the same *but with a rufescent tinge*; lores and an indistinct eyebrow, also the chin, throat, breast and flanks, olive-yellow; ear coverts a little darker; abdomen brighter yellow; under tail coverts and thighs fawn-brown; under wing coverts and axillaries pale yellow; iris brown; eyelids grey; legs and claws pinkish brown; bill bluish horn colour.

*Length*.—6·8 to 7·25 inches; wing 3 to 3·25; tail 2·82 to 3·25; tarsus 0·62 to 0·68; culmen 0·7 to 0·8.

The *female* is alike in size and colour.

*Hab.*—Arrakan and the Khasia and Tipperah Hills to the Tenasserim Provinces. (Sharpe.) Oates says the Olive Bulbul is plentiful in Pegu on the spurs of the Pegu Hills and in the forests of the adjacent plains, except in the dry portion near Thayetmyo and Prome, where it appears to be absent. It extends up the Sittang Valley to Tounghoo, and further east in the Tsankoo

Hills, where Captain Wardlaw-Ramsay found it. Davison found it in every portion of Tenasserim, but not ascending the higher hills. It extends, according to Oates, down the Malay Peninsula as far as Tonka, and to the north he says it appears to have a considerable range, having been procured in the Khasia Hills and in Cachar.

The habits of this Bulbul are not unlike those of the *Pycnonotina* group. Several are said to be found together in forests and their outskirts, and the edges of clearings and orchards. Food—berries only (Oates,) but there can be no doubt that insects also form part of their food. Nothing is yet known of its nidification.

**434. *Iole maclellandi* (Horsf.), Sharpe, Cat. B. Br. Mus. vi. p. 59; Oates, B. Br. Burm. i p. 178. *Hypsipetes maclellandi*, Horsf. P, Z. S. 1839, p. 159; Ferd., B. Ind. ii. p. 79, No. 447; Hume, Nests and Eggs, Ind. B. p. 281; Blyth, B. Burm. p. 133; Hume and Dav., Str. F. vi. p. 298; Hume, Str. F. viii. p. 98; Scully, Str. F. viii. p. 294.—The RUFOUS-BELLIED BULBUL.**

Forehead to nape, including crest of pointed feathers, rich brown, the shafts of the feathers buffy white; whole upper plumage, wing coverts, tertiaries, and tail olive green, in some with faint indications of light shaft stripes; shafts of the tail feathers blackish above, yellow below; lores, feathers around and below the eye, cheeks, chin and throat white, the feathers lanceolate and with greyish bases; *ear coverts and sides of the neck chestnut; breast the same*, with pale shaft stripes; abdomen and flanks pale chestnut; under tail coverts thighs and vent ochraceous yellow; under wing coverts olive yellow, the axillaries tinged with saffron colour; primaries and secondaries dark brown, edged with olive green; bill blackish brown above, livid grey or horny below; irides brownish red or dark red; feet fleshy brown; claws horny brown.

*Length.*—9 to 9·5 inches; wing 4·3 to 4·4; tail 4·3; tarsus 0·7; culmen 1.

The young male is duller in colour than the adult, and washed with rufous on the scapulars, wing coverts, and upper tail-coverts; under surface of body light chestnut; the abdomen whitish, washed with dingy olive yellow; lores, chin and a moustachial line on each side of the throat dull white, mottled with grey bases. (Sharpe.)

*Hab.*—Himalayan hill ranges to Nepaul, ranging eastward into Assam, the Khasia, Arrakan, and Tipperah Hills. In Sikkim it occurs from 2,000 feet or so. It frequents high trees, lives chiefly on fruit, and has a loud cheerful note. It is said to frequent forests and to be seen commonly in pairs.

The Rufous-bellied Bulbul, according to Hodgson's notes, breeds in the central region of Nepaul from April to June. The nest is a shallow saucer, made of roots and leaves, bound together with fine fibres and lined with moss roots. It is said to lay 4 eggs, but these have neither been figured nor described.

**435. *Iole tickelli* (Blyth), Sharpe, Cat. B. Br. Mus. vi. p. 60; Oates, B. Br. Burm. i. p. 179. *Hypsipetes tickelli*, Blyth, J. A. S. B. xxiv. p. 275; Blyth and Wald., B. Burm. p. 133; Hume and Dav., Str. F. vi. p. 296; Hume, Str. F. viii. p. 98.—TICKELL'S BULBUL.**

Not unlike *Iole maccllelandi*, but differing from it in having the ear coverts a light rufescent brown, with whitish shaft lines; the breast very pale earthy or ashy brown, streaked with whitish shaft lines, and the abdomen and vent white; the under tail coverts are also pure yellow, and the sides of the body washed with olive; legs and feet fleshy pink, dark fleshy pink, light purplish brown or pale reddish brown; bill black, horny black, or dark horny brown; irides wood brown, light red or crimson.

*Length*.—8·5 to 9·5 inches; wing 3·95 to 4; tail 4; tarsus 0·7; culmen, 0·95.

*Hab.*—Tenasserim. Occurs in the pine forests of the Salween districts down to Mooleyit. Usually found on the outskirts of the forests along forest paths. Oates adds that it lives chiefly on berries, with an occasional insect; also that it sucks the nectar of flowers.

#### Gen. *Pinarocichla*.—Sharpe.

General characters the same as *Iole*. No wattle round the eye. *A large tuft of* conspicuous feathers on each side of the lower back banded with black and white.

**436. *Pinarocichla euptilosa* (Jard. and Selb.), Sharpe, Cat. B. Br. Mus. vi. p. 62; Oates, B. Br. Burm. i. p. 180. *Brachypus euptilosus*, Jard. and Selby, Ill. Orn. iv. pl. iii. *Brachypodius tristis*, Blyth, J. A. S. B. xiv. p. 576. *Criniger tristis*, Blyth, Ibis, 1865, p. 47; Hume and Dav., Str. F. vi. p. 303; Hume, Str. F. viii. p. 98. *Criniger susannii* (Mull), Salvad., Ucc. Born. p. 207. *Euptilosus euptilosus*, Hume, Str. F. viii. pp. 62, 162.—THE CRESTED BROWN BULBUL.**

Above brown, washed with olive on the mantle and scapulars, which are also tinged with rufous; wing coverts reddish brown, the lesser series washed with olive; upper tail coverts rufous brown; on each side of the rump a large tuft of long feathers springing from the sides of the back black, with pale yellow ends; tail darker rufous brown, the three outer pairs of feathers tipped with white; forehead and crown dark greyish brown, deeper on the occiput; occipital crest the same; lores and feathers round the eye dusky ash colour; ear coverts light ashy brown; cheeks ashy white; throat dull white; fore-neck, chest and sides of body very pale ashy grey, the flanks rather browner; centre of body, abdomen, vent, thighs and under tail coverts yellowish white, the latter slightly tinged with brown; under wing coverts and axillaries yellowish white, the edge of the wing all yellow; legs and feet variable in colour, dark grey brown to dark plumbeous brown or black; bill black; irides crimson or litharge red.

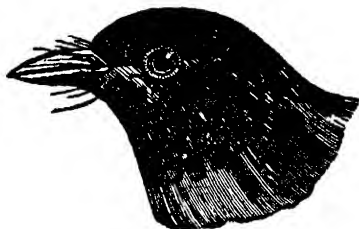
*Length*.—7·7 to 8·8 inches; wing 3·6 to 3·7; tail 3·2 to 3·3; tarsus 0·7 to 0·75; culmen 0·75.

*Hab.*—Malacca, Java, Sumatra, Borneo, and the extreme southern portion of Tenasserim, at Pakchan and Bankasoon.

According to Mr. Davison, this Bulbul avoids forests and affects clumps of trees, bushes or scrubby jungle, and is only seen in pairs or singly.

Gen. **Micropus**.—*Swainson*.

Bill as in *Iole* and *Pinarocichla*, but stouter, shorter, and higher than broad at the nostrils. *Head not crested*.



*Head of Micropus melanocephalus.*

**437. *Micropus melanocephalus* (Gmel.), Sharpe, Cat. B. Br. Mus. vi. p. 56; Oates, B. Br. Burm. i. p. 181. *Lanius melanocephalus*, Gmel., Syst. Nat. i. p. 309. *Turdus atriceps*, Tem. Pl. Col. 147. *Ixos metallicus*, Eyton, Ann. N. Hist. Ser. 1, xvi. p. 228. *Brachypodius melanocephalus*, Salvad. Ucc. Born. p. 201; Blyth, B. Burm. p. 136; Armstrong, Str. F. iv. p. 324; Hume and Dav., Str. F. vi. p. 318; Hume, Str. F. viii. p. 98. *Brachypodius immaculatus*, Sharpe, Ibis, 1876 p. 39.—The BLACK-HEADED BULBUL.**

Entire head, chin and throat metallic black with a purplish lustre; breast, flanks, upper abdomen, and lower surface olive yellow, brighter yellow in the centre of the body and under tail coverts; back olive yellow; rump the same, the feathers with black bases; upper tail coverts bright yellow; tail feathers yellow, with a subterminal black band and bright yellow tips; lesser wing coverts like the back, the greater and median series brighter yellow; winglet, primaries and their coverts black, edged paler on the outer web; secondaries black, broadly edged on the outer web with olive green; tertiaries olive green on the outer webs and black on the inner; under wing coverts and axillaries bright yellow; bill black; mouth pale blue; iris blue; legs plumbeous.

The female is darker in colour, and the young bird has the whole plumage, including the head, of a dull olive green colour.

*Length*.—6·7 to 7·2 inches; wing 3·3; tail 2·75 to 3·2; tarsus 0·5 to 0·55; culmen 0·6.

*Hab.*—Malacca, Sumatra, Java, Borneo, and the Philippine Islands of

Palawan. Ranges to these parts from Dacca and Tipperah through Tenasserim and the Malay Peninsula. It is stated by Blyth to occur in Arrakan. Oates says it is generally distributed over the southern portions of Pegu, and that it is very abundant near Rangoon, and all the way up to Pegu, also on the spurs of hills north of that town. It was met with at Bassein by Mr. Blanford, and at Syriam by Dr. Armstrong. According to Davison it is found abundantly over the whole of Tenasserim. It is more abundant during the rains than at any other time, and is common everywhere, in small or large companies, frequenting thin jungle and the neighbourhood of gardens, feeding entirely on fruit. Davison says it has two notes, very distinct and unlike those of other Bulbuls—one a lively sharp chirp, and the other a melancholy double whistle.

**438. *Micropus fusciflavescens* (Hume), Sharpe, Cat. B. Br. Mus.** vi. p. 66. *Micropus fuscoflavescens*, Hume, *Str. F.* 1873, p. 297; Wald., *Ibis*, 1873, p. 306; Hume, *Str. F.* 1874, p. 224; *id.*, *Str. F.* 1879, p. 98. *Brachypodius melanocephalus* (nec. Gm.), Ball, *J. A. S. B.* xli. pl. 2, 1872, p. 284; *id.*, *Str. F.* 1873, p. 71.—The ANDAMAN BLACK-HEADED BULBUL.

*Adult Male*.—General colour above olive yellow, the wing coverts like the back, the edges of the greater series rather brighter yellow; quills dusky brown, externally olive yellow, brighter on the secondaries, the innermost of which are entirely of this latter colour; lower back, rump and upper tail coverts brighter yellow, with an appearance of black bands across the rump, the feathers of which are black, with broad golden yellow ends; tail feathers dull olive yellow, with bright yellow tips, before which is a subterminal black shade; head dull olive, with an oily greenish gloss not distinct enough to form a regular cap; lores, a narrow eyebrow, and the sides of the head and neck, as well as the lower throat and foreneck, dull olive green; *throat dull glossy purple*; remainder of under surface of body, including the wing coverts and axillaries, bright yellow; bill greenish slate colour; iris bluish white. (Sharpe.)

*Length*.—6·3 inches; wing 3; tail 2·7; tarsus 0·6; culmen 0·65.

The female is larger and similar in colour.

*Hab.*—Confined to the Andaman Island, where it is resident. (Sharpe.)

**439. *Micropus cinereiventris* (Blyth), Sharpe, Cat. B. Br. Mus.** vi. p. 67; Oates *B. Br. Burm.* i. p. 182. *Brachypodius cinereiventris*, Blyth, *J. A. S. B.* xiv. p. 576; Wald. in Blyth, *B. Burm.* p. 136; Hume and Dav., vi. p. 319; Hume, *Str. F.* viii. p. 198; Oates, *Str. F.* x. p. 210.—The GREY-BELLIED BULBUL.

Similar to *Micropus melanocephalus*, excepting that the breast, upper abdomen and mantle are ashy or light bluish grey instead of olive yellow; iris blue; eyelids grey; bill black; legs and claws brownish black.



*Length*.—6·7 to 6·9 inches; wing 3·15 to 3·4; tail 2·8 to 2·9; culmen 0·6.

*Hab*.—British Burmah and Tipperah. Oates (*B. Br. Burm.*) says it occurs sparingly in Pegu, and has been found near Rangoon and at Tounghoo. Mr. Hume records it from Tonka in the Malay Peninsula, and it has also been found in Dacca.

**440. *Micropus phæocephalus* (Ferdon), Sharpe, Cat. B. Br. Mus.** vi. p. 68. *Brachypus poiocephalus*, *Ferd.*, *Madr. Journ.* x. p. 246. *Brachypodius poiocephalus*, *Blyth*, *J. A. S. B.* xiv. p. 576; *Ferd. B. Ind.* ii. p. 89; *Hume, Str. F.* 1879, p. 98.—THE SOUTH INDIAN OR GREY-HEADED BULBUL.

Lores and forehead olive yellow or siskin green; crown of head and nape bluish grey; round the eye and ear coverts olive greenish, the latter washed with grey; fore part of cheeks olive yellow, the hinder part grey like the throat, which has a black chin spot; under surface of body yellowish green; under tail coverts grey; under wing coverts and axillaries pale yellow; upper surface of body yellowish green; wing coverts like the back; greater coverts and quills blackish, externally edged with yellowish; primaries and their coverts narrowly edged with yellowish; rump barred black, the feathers black with paler olive yellow tips; upper tail coverts bluish grey, washed with yellow; centre tail feathers bluish grey with olive yellow margins, the remainder blackish, tipped with ashy grey and slightly edged with olive yellow.

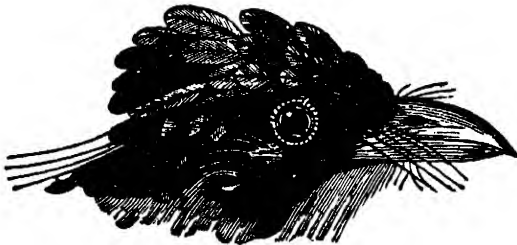
Bill greenish horn; legs reddish yellow; irides bluish white.

*Length*.—6·4 to 7 inches; wing 2·8; tail 2·6; tarsus 0·65; culmen 0·6.

*Hab*.—South India. Confined, according to Jerdon, to the forests of the Malabar Coast, extending from Travancore to Honore. It is found from near the sea level to 2,000 feet or so of elevation, living in small families and feeding chiefly on small stony fruit.

#### Gen. *Criniger*.—*Tem.*

Head more or less crested. Bill moderately long, strong and deep; culmen curved; rictal bristles long; nostrils exposed, not hidden by bristles, oval. Membrane of nostril large posteriorly; several long hairs springing from the nape, but not from the centre of the back, tarsus longer than mid toe and claw.



*Head of Criniger barbatus.*

**441. *Criniger phæocephalus* (Hartlaub.),** *Wald. Ibis*, 1871, p. 169, f. 2; *Salvad. Ucc. Born.* p. 207; *Hume and Dav. Str. F.* vi. p. 302; *Hume, Str. F.* viii. p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 74; *Oates, B. Br. Burmah* i. p. 183. *Ixos phæocephalus*, *Hartl. Rev. Zool.* 1844, p. 401.—The GREY-HEADED BULBUL.

Entire head from the forehead to the nape dark slaty grey; lores, ear-coverts and sides of the head pale grey; cheeks, chin and throat white; remainder of lower plumage deep yellow, suffused with olive-green on the flanks and sides of the breast; upper plumage with the wing coverts olive green; tail rufous brown, brighter on the edges of the outer webs; wings brown, the outer webs edged with ruddy olive and the tertiaries wholly of this colour. Legs and feet fleshy white to fleshy pinkish yellow. Bill pale plumbeous; irides snuff brown.

*Length.*—7·6 to 8·7 inches; wing 3·35 to 3·37; tail 3·25 to 3·62; tarsus 0·75 to 0·8.

*Hab.*—Sumatra, Borneo and the Malay Peninsula, ranging into the forests in the neighbourhood of Tenasserim. (Sharpe.) Oates says the Grey-headed Bulbul occurs in the extreme south of Tenasserim about Malewoon and Bankasoon, where it appears to be common. They are characterized by a loud harsh note, which is incessantly uttered when the birds are disturbed. They are generally met with in small parties.

**442. *Criniger flaveolus* (Gould),** *Blyth J. A. S. B.* xvi. p. 571; *Jerd. B. Ind.* ii. p. 83; *Hume, Nests and Eggs, Ind. B.* p. 283; *id. Str. F.* 1879, p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 77. *Trichophorus flaveolus*, *Gould, P. Z. S.*, 1836, p. 6.—The WHITE-THROATED BULBUL.

Above dark olive yellow, the upper tail coverts with a slightly ruddy tinge; least and median wing coverts like the back; the greater and primary coverts as well as the quills externally edged with olive yellow; tail ruddy brown, the bases of the feathers edged with olive; head olive brown, the feathers long and forming a crest, all margined with yellowish; lores greyish white; ear-coverts white shafted; cheeks and throat white; under surface of body bright yellow, slightly tinged with olive on the flanks; under wing coverts and axillaries yellow. Bill light or greyish plumbeous; legs pale fleshy yellow; iris brown-red.

*Length.*—8 to 8·5 inches; wing 3·95 to 4; tail 3·65 to 3·7; tarsus 0·75 to 0·8; culmen 0·8.

*Hab.*—The Himalayas, extending to the hills of Assam, Sylhet, Arrakan and Khasia. Jerdon says it is chiefly found at from 2,000 to 5,000 feet. He got several specimens from the vicinity of Darjeeling, but did not himself observe it. Hume received a nest from Darjeeling, found in July. It was placed on the branches of a medium sized tree at about 5 feet from the ground. It was compact, rather shallow, saucer-shaped, and about 5·5 inches

in diameter; the greater portion of the nest was composed of dead leaves bound together firmly by fine brown roots, and again an inner lining of fine horse hair like roots and stems of the maidenhair fern. Eggs 3 in number, a beautiful salmon pink, thinly spotted, blotched and marked with irregular lines of deep maroon red; size 0·9 to 1·0 × 0·7 to 0·72.

**443. *Criniger griseiceps*, Hume, *Str. F.* 1873, p. 478; *id.* 1874, p. 476; *Wald. B. Burm.* p. 134; *Hume, Str. F.* 1875, p. 124; *Hume and Dav., Str. F.* 1878, p. 300; *Hume, Str. F.* 1879, p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 77; *Oates, Str. F.* x. p. 209. *Criniger flaveolus* (*nec. Hodg.*) *Blyth, B. Burm.* p. 134.—THE BURMESE WHITE-THROATED BULBUL.**

Head much crested, pale ashy brown, lighter on the forehead; lores, cheeks and ear coverts pale grey; chin and throat white; upper plumage with the lesser and median wing coverts dull olive yellow or yellowish green; upper tail coverts and tail ruddy or rufous brown; quills dull brown, externally washed with olive; the secondaries with a ruddy tint. Under surface of body bright yellow, deeper on the abdomen and under tail coverts; sides of the breast and flanks washed with olive; under wing coverts and axillaries yellow. Bill bluish, rather dark towards the tip; eyelids plumbeous; iris reddish brown; legs pinkish brown; claws pale horn.

*Length.*—8·7 to 8·8 inches; wing 3·9; tail 3·5 to 3·8; tarsus 0·75.

*Hab.*—Northern and Central Tenasserim, Pegu, and Burmah. According to Oates, the White-throated Bulbul is found generally diffused over the hills of Pegu, where the vegetation is thick and evergreen, and specially abundant on the Eastern slopes. It has been procured at Tounghoo and also at Karennee. In Tenasserim, according to Davison, it is found only as far south as Meetan. They are remarkably noisy birds, and may generally be found in parties of six or more. They fly from tree to tree, backwards and forwards, continually uttering their harsh notes. Oates says that they never descend to the ground, and appear to feed entirely on fruit. Nothing is known of the nidification of this Bulbul.

**444. *Criniger gutturalis* (Bonap.), *Sclater, P. Z. S.* 1863, p. 216; *Salvad. Ucc. Born.* p. 206; *Wald. in Bl. B. Burm.* p. 134; *Hume, Str. F.* viii. p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 80; *Hume, Str. F.* 1879, p. 61; *Oates, B. Br. Burm.* i. 185. *Trichophorus gutturalis*, *Bonap. Consp. Av.* i. p. 262. *Criniger ochraceus*, *Moore, in Horsf., and Moore, Cat. B. Mus. E. I. Co.* i. p. 252; *Bl. B. Burm.* p. 134; *Hume and Dav., vi.* pp. 301, 515.—THE MALAYAN WHITE-THROATED BULBUL.**

Head rufous brown; hind neck tinged with ashy; lores, feathers round the eye and an indistinct supercilium ashy, the ear coverts rather darker and with fulvous shaft streaks; chin and throat white. Upper plumage olive brown with an ochraceous tinge, purer on the upper tail coverts; tail rufous brown; the outer feathers paler at the tip of the inner webs; lesser wing

coverts more rufescent than the back; median and greater coverts brown edged narrowly with a tinge of olivaceous on their outer webs; quills dull brown, inclining to rufescent brown and washed with olivaceous on their outer margins. Under surface of body olive yellowish, purer yellow on the abdomen and deepening to fawn colour on the under tail coverts; under wing coverts fawn color washed with yellowish. Bill blackish, pale at base; legs and feet pale pinkish brown; irides wood-brown.

*Length*.—8·5 inches; wing 4·0; tail 3·8; tarsus 0·75; culmen 0·9; bill from gape 1·0.

*Hab.*—The forests of Sumatra, Borneo, and Malay Peninsula ranging into the evergreen forests of the extreme southern division of Tenasserim. (Sharpe.) Mr. Davison says: "This is eminently a forest Bulbul, never, that I am aware of, coming into gardens or clearings. In its voice and habits it resembles *C. griseiceps*, and is quite as noisy as that bird, if not more so; and, like it, goes about in small parties, though I have occasionally seen it in pairs or singly. This bird also never, I believe, descends to the ground."

Gen. *Tricholestes*.—*Salvad.*

General characters same as those of *Criniger*. *A bunch of long hairs springing from the centre of the back*; rictal bristles long and strong.

**445. *Tricholestes criniger*** (*Blyth*), *Hume and Dav. Str. F.* vi. p. 304; *Tweed. Ibis*, 1877, p. 306; *Hume, Str. F.* viii. p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 89; *Oates, B. Br. Burm.* i. p. 186. *Brachypodius criniger*, *Blyth, J. A. S. B.* xiv. p. 577; *Wardlaw-Ramsay, Tweed. Mem. App.* p. 67. *Trichophorus minutus*, *Hartl. Journ. F. Orn.* 1853, p. 156. *Tricholestes minutus*, *Salvad. Ucc. Born.* p. 205, pl. v. f. 1—The BRISTLE-BACKED BULBUL.

Forehead and crown olive brown washed with yellow; hind-neck, back and rump dull olive green; the lores and sides of the head yellow; chin and throat whitish; hind neck and mantle with long black bristly hairs springing from them; wing coverts brown, washed with dull olive green; quills brown, externally olive brown; upper tail coverts and tail feathers fawn or rufous brown; the outer edges tinged with greenish; under surface of body yellow, tinged with ashy on the sides of the body and on the breast; under tail coverts yellow.

Bill pale leaden; legs and feet light yellow brown; iris pale sepia brown; ridge of culmen black.

*Length*.—6·5 inches; wing 3; tail 2·8; tarsus 0·6; bill from gape 0·75.

*Hab.*—Java, Sumatra, Borneo and the Malay Peninsula, ranging into the extreme southern portion of Tenasserim. (Sharpe.) According to Davison, the bristle-backed Bulbul keeps together in small parties. Habits much nearer the *Timeliinæ* birds, hunting as they do, the foliage of trees and brushwood for insects, which almost exclusively form their food.

Gen. **Alcurus**.—*Hodgs.*

Bill slightly longer than in the preceding genus and somewhat wider at base; rictal bristles well developed though weak; nostrils oval, apert; *no* long hairs on the centre of the back. Head crested. Tarsus scutellate, nearly as long as the culmen.



*Head of Alcurus striatus.*

**446. *Alcurus striatus* (Blyth),** *Jerd B. Ind.* ii. p. 81, No. 449; *Wald. in Bl. B. Burm.* p. 134; *Hume and Dav. Str. F.* vi. p. 299; *Hume, Str. F.* viii. p. 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 91; *Oates, B. Burmah* i. p. 187. *Trichophorus striatus*, *Blyth, J. A. S. B.* xi. p. 184. *Alcurus nipalensis*, *Hodgs. in Gray's Zool. Misc.* p. 83.—The STRIATED GREEN BULBUL.

Whole head, crest, back and scapulars olive green, the feathers with a mesial yellowish white shaft stripe; rump and upper tail coverts brighter and more olive yellow, the mesial shaft streaks not very distinct, and in some skins nearly obsolete; tail brown, edged externally with olive green and internally with yellowish, the three outer pairs on each side tipped with yellow; lesser and median wing coverts like the back and similarly streaked; greater and primary coverts dull olive greenish; quills dark brown, olive yellow externally. A spot of yellow at the base of the lower mandible; chin and throat yellow, the latter with triangular black spots; cheeks and ear-coverts dark brown, streaked with yellowish white; sides of the neck, breast, abdomen and flanks yellow, each feather broadly margined with dark brown; under wing and tail coverts, also axillaries, bright yellow; legs and feet deep plumbeous; bill black; irides deep red-brown.

*Length*.—8· to 8·5 inches; wing 4 to 4·3; tail 3·8 to 4; tarsus 0·7 to 0·8; culmen 0·8; bill from gape 1.

*Hab.*—The forests of the Himalayas, extending to the hills of Burmah and Tenasserim. Jerdon says it is extremely abundant about Darjeeling, and most common from 7,000 feet and upwards. It has been observed on the Tonghoo hills in Pegu by Capt. Wardlaw-Ramsay, who found it common also in the Karen hills. Davison got it in Tenasserim, where he says it is confined to

the highest portions of the mountains. It occurs also in the Dacca and Khasia hills in Eastern Bengal, also in Sikkim and Nepaul. It is said by Jerdon to keep to the tops of high trees, going in small parties; and to have a loud mellow warble, uttered both when feeding and on the wing. It feeds chiefly on fruit and sometimes on insects.

*Gen. Trachycomus.—Cab.*

Bill moderate; tarsus longer than culmen; rectal bristles feeble; no distinct rectal hairs.

**447. *Trachycomus ochrocephalus*, Gmel., *Cab. Mus. Hein.* Th. i. p. 109; *Moore, P. Z. S.* 1854, p. 279; *Hume, Str. F.*, 1873, p. 455; *Blyth, Wald. B. Burm.* p. 133; *Salvad. Ucc. Born.* p. 196; *Sharpe, Ibis*, p. 38; *Hume and Dav., Str. F.*, 1878, p. 300; *Hume, Str. F.*, 1879, pp. 61, 98; *Sharpe, Cat. B. Br. Mus.* vi. p. 93. *Turdus ochrocephalus*, Gmel., *Syst. Nat.* i. p. 821. *Alcurus ochrocephalus*, Wald., *Ibis*, 1872, p. 379.—The YELLOW-CROWNED BULBUL.**

Forehead, crown, a patch under the eye, branching out into two streaks extending over and under the ear coverts straw yellow; upper plumage and lesser wing coverts ashy brown, dashed with green; all the feathers except those of the rump with conspicuous white shafts, and the upper tail coverts margined with olive green; greater coverts, wing and tail dark brown margined with olive green; ear-coverts brown with white shafts; lores and cheeks black; chin and throat white; breast and sides of the neck ashy brown, with white shaft streaks; abdomen and vent brownish white; thighs and under tail coverts ochraceous; under wing coverts and axillaries ochraceous brown (Oates); legs and feet dark horny brown or black; bill black; irides litharge red (Dav.)

*Length.*—9·5 to 11 inches; wing 4·6; tail 4·8; tarsus 1·0; bill from gape 1·2.

*Hab.*—Java, Sumatra and Borneo, ranging through the Malay peninsula to the southernmost districts of Tenasserim, inhabiting scrub and jungle.

Its habits appear to be those of the preceding, except that it descends and feeds on the ground, an unusual thing for forest Bulbuls to do.

*Gen. Xenocichla.—Hartl.*

General characters like those of *Criniger*, but with conspicuous hairs springing from the nape. Nostrils oval, bare, and with a posterior membrane.

**448. *Xenocichla icterica* (Strickl.), *Sharpe, Cat. B. Br. Mus.*, vi. p. 96. *Criniger ictericus*, *Strickl., Ann. Nat. Hist.* 1844, xiii. p. 411; *Jerd. B. Ind.* ii. p. 82; *Hume, Nests and Eggs, Ind. B.* p. 282; *Bourde. Str. F.*, 1876, p. 800; *Fairbank, Str. F.*, 1877, p. 405; *Hume, Str. F.*, 1879,**

p. 61. *Pycnonotus ictericus*, *Blyth, J. A. S. B.* 1844, xiv. p. 570.—The YELLOW-BROWED BULBUL.

Above bright olive yellow or olive green; wing coverts the same; quills dark brown, their outer webs edged with olive yellow; tail dull olive yellow, dusky along the inner webs and towards the tips; lores, a narrow eyebrow and feathers round the eye bright yellow; ear coverts yellow, shaded with olive; cheeks and under surface of body bright yellow; the sides and breast washed with olive; under wing coverts and axillaries bright yellow; bill black; legs and feet dusky slatish; iris red or blood red.

*Length*.—7·4 to 8 inches; wing 3·4 to 3·7; tail 3; tarsus 0·8; culmen 0·75.

*Hab*.—Ceylon and Southern India, not ranging higher than Bombay. (Sh.) Recorded from Malabar, Coorg, Travancore and Ceylon. Jerdon says it prefers mountainous regions, and that it is abundant on the slopes of the Neilgherries, living in small flocks and keeping up a continual mellow warble when flying from tree to tree. Breeds from March to May. Nest a small shallow cup hung between two twigs, and composed of excessively fine twigs. It is lined with hair-like grasses, and attached by cobwebs. Eggs two to three in number of a pinkish salmon colour, with a dark ring at the thick end, and speckled more or less thickly over the whole surface of the egg with pale brownish red or pink. Size 0·9 to 1·03 × 0·64 to 0·7.

#### Gen. *Pycnonotus*.—*Boie*.

Bill rather long, thin and slightly curved; rictal bristles strong; legs and feet stoutish; tarsi with a single scute at insertion of feet; toes scutellate; head more or less crested, but not conspicuously so.

**449.** *Pycnonotus hæmorrhous*, *Blyth, J. A. S. B.* xiv. p. 566; *id.* xv. p. 50; *Gray, Gen. B.* i. p. 237; *Jerd. B. Ind.* ii. p. 94, No. 462; *Str. F.*, 1875, p. 292; *Sharpe, Cat. B. Br. Mus.* vol. vi.; *Murray, Handbk., Zool., &c., Sind.* *Hæmatornis hæmorrhous*, *Swains, Faun. Bor. Amer. B.* p. 485. *Pycnonotus pusillus*, *Gray, Gen. B.* i. p. 237; *Str. F.* 1878, p. 258; *Hume, t. c.* p. 456; *Str. F.*, 1877, p. 245. *Molpastes hæmorrhous*, *Hume, Str. F.*, 1879, p. 98.—The COMMON MADRAS BULBUL.

Head crested, black; chin and throat black; neck, back and wing coverts brown, more or less pale edged; upper tail coverts white; tail brownish black, tipped with white; breast brown, all the feathers edged with white or ashy; lower abdomen and vent white; flanks and thigh coverts light brown; under tail coverts crimson; under wing coverts whitish. Bill black; legs greenish or slaty green; irides deep brown.

*Length*.—7·75 to 8 inches; wing 3·4; tail 3·4; tarsus 0·8; bill at front 0·9.

*Hab*.—Ceylon, Southern and Central India (Mhow), Travancore, Deccan, Concan, Malabar, Kutch, Kattiawar, Jodhpore and North Guzerat; also the

Punjab, N.-W. Provinces, Bengal and Oudh. In Sind it appears to be a permanent resident, breeding from June to August. Eggs 2—4, white, speckled with lake red or deep claret.

This, with *P. leucotis*, is the common Bulbul of all India. It is found in gardens, orchards, Babool groves, and wherever there are any clumps of trees, but never in forests, either associating in small families or in pairs, restlessly flying about from tree to tree in search of fruit and insects. It does much damage in gardens, where it picks off blossoms of cherries and flower buds. It is commonly caged throughout India, or kept tied by a cord round the waist. Being pugnacious they are made to fight for small prizes, and when being trained for this purpose are fed on minced meat and a compound made of wheat flour, sugar and milk boiled together, otherwise dates and other seasonal fruit. Breeds chiefly in June and July—many often as early as April and as late as the middle of August. Nest generally a compact structure composed of delicate stems, dry leaves and grass, with a little lining of any soft material. Eggs 3—4 in number. In shape the eggs are rather long ovals, slightly compressed or pointed towards the small end. The markings are very various, and as, Mr. Hume says, take almost every conceivable form defined and undefined specks, spots, blotches, streaks, smudges and clouds; their combinations are as varied as their colours, which embrace every shade of red, brownish and purplish red. In length the eggs vary from 0·7 to 0·89 and in breadth from 0·6 to 0·72.

**450. *Pycnonotus burmanicus*, Sharpe, Cat. B. Br. Mus. vi. p. 125; Oates, Str. F. x. p. 211; id., B. Br. Burm. 1, p. 189. *Pycnonotus hæmorrhous*, apud. Bl. and Wald. B. Burm. p. 135. *Molpastes pygæus*, (Hodgs.), Hume, Str. F. iii. p. 126. *Molpastes intermedius* (Hay), Armstrong, Str. F. iv. p. 326; Hume, Str. F. viii. p. 98. *Pycnonotus pygæus* (Hodgs.), Oates, Str. F. v. p. 157. *Pycnonotus intermedius* (Hay), Oates, Str. F. v. p. 157. *Pycnonotus nigripileus* (Bl.), Anders. Yunnan Exped. p. 658.—THE BURMESE RED-VENTED BULBUL.**

Forehead, crown, lores, cheeks, feathers round the eye, chin and throat black; back, scapulars, rump and wing coverts dark brown, each feather edged with whitish brown; lower back and rump uniform ashy; upper tail coverts lighter ash-colour; wing coverts like the back, the feathers with broad ashy margins; quills brown with narrow ashy margins, the shafts reddish brown; tail brown, tipped with white on all but the two centre feathers; breast blackish, the feathers edged with whitish; abdomen more or less white; flanks whitish, streaked with brown; under tail coverts crimson; bill and legs black; irids dark brown.

*Length*.—8 inches; wing 3·7; tail 3·9; tarsus 0·9 to 1; culmen 0·9.

*Hab.*—Through the Indo-Burmese countries to Cachar. According to Oates, the Burmese Red-vented Bulbul occurs in every portion of Pegu, and is a



very common bird. Blyth says it occurs in Arrakan. Its habits are quite those of *P. hæmorrhous*. Breeds at about the same time of year, building a nest of the same construction, and laying eggs of a similar type.

**451. *Pycnonotus nigripileus*, Blyth, *J. A. S. B.* xvi. p. 472; *id.*, *Cat. B. Mus. As. Soc.* p. 209; *Walden, P. Z. S.* 1866, p. 549; *Blyth and Wald.*, *B. Br. Burm.* p. 135; *Sharpe, Cat. B. Br. Mus.* vi. p. 126; *Oates, B. Br. Burm.* i. p. 191. *Ixos nigripileus*, *Bp. Consp. Av.* i. p. 265. *Molpastes nigropileus*, *Hume, Str. F.* iii. p. 126; *Hume and Dav., Str. F.* vi. p. 321; *Hume, Str. F.* viii. p. 98.—The TENASSERIM RED-VENTED BULBUL.**

Crown of the head black, forming a cap; lores, feathers round the eye, base of cheeks and chin black; ear coverts, cheeks and throat pale earthy brown; foreneck and breast light brown, the feathers margined with ashy whitish; back light earthy brown, the feathers with ashy margins; lower back and rump the same but with less whitish margins; upper tail coverts dull white with a slight shade of pink; wing coverts like the back; greater and primary coverts also the quills dark brown, the primaries margined narrowly with ashy; tail dark brown, the base rather lighter and the tips white; abdomen dull white; under tail coverts crimson; under wing coverts and axillaries light ashy brown; bill, legs and feet black; irides deep brown.

*Length.*—7·5 to 8 inches; wing 3·55; tail 3·5 to 3·7; tarsus 0·85; culmen 0·75.

*Hab.*—The Burmese countries. Common throughout the more open and better cultivated portions of Tenasserim, north of Amherst. Recorded from Tonghoo and the Karen hills and Kaukaryit.

**452. *Pycnonotus atricapillus* (Vieill), *Wald in Bl. B. Burm.* p. 136; *Sharpe, Cat. B. Br. Mus.* vi. p. 127; *Oates, B. Br. Burm.* i. p. 127. *Muscicapa atricapillus*, *Vieill, Nouv. Dict. d'Nat. Hist.* xxi. p. 489. *Hæmatornis chrysorrhoides*, *Lafr. Rev. Zool.* 1845, p. 367. *Hæmatornis atricapillus*, *Hay, Madr. Journ.* xiii. 1844, p. 160. *Molpastes chrysorrhoides*, *Hume, Str. F.* ii. p. 477. *Molpastes atricapillus*, *Hume and Dav., Str. F.* vi. p. 322; *Hume, Str. F.* viii. p. 99.—The CHINESE RED-VENTED BULBUL.**

Above light ashy brown, the edges of the feathers lighter; head crested; forehead, crown of head, lores, chin and cheeks black; throat, ear coverts, sides of neck and whole lower plumage whity brown; under tail coverts crimson; tail brown, paler at the base, all the feathers tipped with white; rump whity brown; upper tail coverts whity brown, the longer ones tipped with darker brown; wings and their coverts brown, edged exteriorly with paler; under wing coverts and axillaries pale fulvescent brown; legs, feet and claws black; iris brown to dark brown.

*Length.*—7·5 to 8 inches; wing 3·7 to 3·75; tail 3·7; tarsus 0·8 to 0·9; culmen 0·7.

*Hab.*—Southern China to Ningpo, also the Burmese hills and the more hilly and richly wooded parts of Tenasserim, north of 13° N. lat. (Sharpe). According to Oates, Capt. Bingham found it abundant in the Thoungyeen Valley, and Capt. Wardlaw-Ramsay procured it in Karennee at from 1,000 to 2,000 feet elevation.

**453. *Pycnonotus pygæus* (Hodgs.), Horsf. and Moore, Cat. B. Mus. E. I. Co. i. p. 239; Jerd., B. Ind. ii. p. 93, No. 461; Sharpe, Cat. B. Br. Mus. vi. p. 128. *Molpastes pygæus*, Hume, Str. F. 1873, p. 378; *id.*, Nests and Eggs, Ind. B. p. 290; *id.*, Str. F. 1875, p. 126; *id.*, Str. F. 1879, p. 98; Scully, t. c. p. 297.**—THE COMMON RED-VENTED BULBUL.

Crown of the head, which is crested, and the nape black; sides of the face also black; ear coverts glossy chocolate brown; throat and foreneck black, shading off into brown on the breast, the lower feathers of which are edged with white brown; hind nape and upper back deep chocolate brown, the feathers margined paler; lower back and rump more ashy with subterminal marks of brown to each feather; upper tail coverts white; tail dark sepia brown tipped with white; wings brown, all the coverts and quills edged with paler brown, rather ashy on the greater coverts and primaries; under surface of body dull ashy white, with mottlings of dark brown about the middle of each feather; under tail coverts crimson; under wing coverts ashy white with dark brown centres to the feathers; bill black; feet dusky; iris dark brown.

*Length.*—7·8 to 8 inches; wing 3·85; tail 3·8 to 3·9; tarsus 0·9; culmen 0·8.

*Hab.*—Throughout Lower Bengal as far south as Midnapore and the jungles stretching thence to Central India north of the Nerbudda, also the Himalayas to 7,000 feet from Kumaon eastward to Assam. (Sharpe.) Under "*Obs.*" Mr. Sharpe remarks that the Common Red-vented Bulbul is easily distinguished from the other races or species by its long crest and chocolate brown ear coverts; the hind neck is black like the head, which colour also occupies the sides of the neck and the throat extending well on to the foreneck. Specimens in the British Museum from Darjeeling are the same, also those from Nepal, Kumaon, Calcutta, Cachar and Upper Assam, but in the Kumaon birds he notices a slight tendency toward *P. intermedius*, which (from the Punjab) he says is a good distinguishable race or species. It resembles the Nepal bird in having brown ear coverts, but the shade of black is not so strongly pronounced on the hind neck and chest; the abdomen is uniform greyish ash color, the brown shading of the chest not extending beyond that part, the breast being mottled with a few brown centres to the feathers." In any case the characters given above are not sufficient to define *intermedius*; something more than shades of color is wanted by which it should be distinguished with certainty from the typical forms. I therefore exclude *P. intermedius*, and extend the range of *pygæus* to Cashmere and Afghanistan.

The common red-vented Bulbul is found in the Punjab, N.-W. Himalayas, (N.-W. Provinces), Oudh, Bengal, Assam, and Nepaul. Its habits are precisely those of *Hæmorrhous*, and like that species is caged and trained.

**454. *Pycnonotus leucotis* (Gould.), Blyth, *J. A. S. B.* xiv. p. 567; *Blanf. East Pers.* ii. p. 218; *Murray, Vert. Zool. Sind*, p. 135. *Ixos leucotis*, *Gould, P. Z. S.* 1836, p. 6; *Bp. Consp. Av.* i. p. 265; *De Fillipi, Viagg. in Pers.* p. 347. *Otocompsa leucotis*, *Jerd., B. Ind.* ii. p. 91, No. 459; *Hume, Str. F.*, 1873, p. 1881; *id.*, *Nests and Eggs Ind. B.* p. 286; *Adam t. c.* p. 378; *Ball, Str. F.* 1875, p. 206; *Buller t. c.*, p. 473; *Hume, Str. F.* 1879, p. 98.—THE WHITE-EARED BULBUL.**

Head, hind neck, round the eye, forecheek, chin, throat and upper breast black; back, wing coverts, scapulars, and upper tail coverts earthy brown; quills dusky brown; the outer webs like the back; ear coverts and hinder part of cheeks white; tail dark brown, lighter at the base, all the feathers tipped with white; lower breast and abdomen ashy brown; thigh coverts dusky brown; under tail coverts rich golden or saffron yellow; bill horny brown; irides dark brown; legs and feet dark brown.

*Length*.—7 inches; wing 3'5; tail 3'25; tarsus, 0'9.

*Hab.*—Western and Northern India, Beloochistan (Khelat, Bolan, Mekran Coast, and Quetta), S. Afghanistan (Chaman), Persia. Common in the Punjab and N.-W. Provinces. Resident in Sind. Breeds from April to July.

The nests are built generally in dense thorny acacia or other trees not very high from the ground, and are composed of fine dry twigs mixed with tow-like fibre, and lined with any soft material procurable. Eggs 2—4, ovato-pyriform, in color similar to those of *pygæus* and varying in size from 0'75 to 0'9 × 0'52 to 0'6.

**455. *Pycnonotus analis* (Horsf.), *Sclater, P. Z. S.* 1863, p. 216; *Salvad. Ucc. Born.* p. 197; *Sharpe, Ibis*, 1876, p. 38; *id.* 1879, p. 168; *id. P. Z. S.* 1879, p. 339; *id. Cat. B. Br. Mus.* vi. p. 140; *Oates, B. Br. Burm.* i. p. 191. *Turdus analis*, *Horsf. Trans. Lin. Soc.* xiii. p. 147. *Otocompsa personata*, *Hume, Str. F.* i. p. 457; ii. p. 333. *Pycnonotus gourdini* (*G. R. Gray*), *Salvad. Ucc. Born.* p. 198. *Otocompsa analis*, *Hume and Dav. Str. F.* vi. p. 308; *Hume, Str. F.* viii. p. 98.—THE YELLOW-VENTED BULBUL.**

Above earthy brown, slightly tinged with olive, the head rather darker brown; a broad supercilium white; lores and a ring round the eye black; forecheeks, chin, and throat white; ear coverts and hind cheeks pale brown; breast brown, the feathers edged paler; vent and under tail coverts yellow; abdomen whitish; thighs brown washed with yellow; under wing coverts whitish, washed with olive yellow; edge of the wing the same; wing coverts and quills dark brown, edged with earthy brown; upper tail coverts tinged with reddish brown; tail dark brown, edged and tipped with olive brown. Bill, legs, feet, and claws black; irides wood brown or chocolate.

*Length*.—7·8 to 8 inches; wing 3·3 to 3·6; tail 3·2 to 3·5; tarsus 0·9; culmen 0·75 to 0·8.

*Hab*.—The southern part of Tenasserim, through the Malay Peninsula to the Islands of Java, Sumatra, and Borneo. According to Dr. Tirand, it is one of the commonest birds in Cochin-China. Mr. Davison, who collected specimens, is quoted by Oates (*B. Br. Burm.*) to the effect that it is abundant in the Island of Mergui in the secondary scrub and in gardens. It feeds largely on insects and also on berries and fruit. It is usually found singly or in pairs, though often half-a-dozen or more may be seen seated about the bushes, near each other, looking as if they all belonged to one flock or party.

**456. *Pycnonotus flavescens*, Blyth, *J. A. S. B.* xiv. p. 568; Anders. *Yunnan, Exp.* p. 659; Sharpe, *Cat. B. Br. Mus.* vi. p. 192; Oates, *B. Br. Burm.* i. p. 192. *Ixus flavescens*, Bl. and Wald., *B. Burm.* p. 134; Hume and Dav. *Str. F.* vi. p. 306; Hume, *Str. F.* viii. p. 98.—BLYTH'S BULBUL.**

Forehead and crown brown, the feathers edged with olive yellow; upper surface of body and wing coverts olive brown, tinged with olive yellow; lores dark brown with a whitish line above them; sides of the head greenish brown; under surface of body washed with yellow, the feathers of the breast with darker streaks; vent and under tail coverts deep yellow; legs, feet, and claws variable, deep reddish to plumbeous or black; bill black.

*Length*—8·5 to 8·8 inches; wing 3·5; tail 4·2; tarsus 0·85; bill from gape 0·8.

*Hab*.—The hill portions of Tenasserim, as far south, according to Mr. Davison, as a point between Mooleyit and Paraduba. Capt. Wardlaw-Ramsay procured it in the Tonghoo hills and in Karennee, and he states, that it is common in the Karen hills. It is recorded by Blyth from Arrakan; by Col. Godwin-Austen from the Khasia hills, and Dr. Anderson procured it near Bhamo. (Oates.) Its habits are not unlike other species of the genus, but it avoids dense forests and keeps generally to the outskirts.

**457. *Pycnonotus luteolus* (Less), Gray, *Gen. B.* i. p. 237. *Hæmatornis luteolus*, Less, *Rev. Zool.* p. 354. *Pycnonotus flavirictes*, Strickl. *Ann. Nat. Hist.* xiii. p. 413. *Ixus luteolus*, Ferd., *B. Ind.* ii. p. 84, No. 452; Hume, *Nests and Eggs, Ind. B.* p. 283; Ball, *Str. F.*, 1874, p. 410; 1876, p. 235; Fairbank, t. c. p. 258; Hume, t. c. p. 415; Fairbank *Str. F.* 1877, p. 405; Ball; t. c. p. 417; Hume, *Str. F.* 1879, p. 98.—THE WHITE EYE-BROWED BUSH BULBUL.**

Above olive brown, more olivaceous on the lower back and rump, where there is a perceptible tinge of greenish yellow; lores, eyelids, supercilium, also a streak under the eye dull white; ear coverts light brown, washed with olive and with narrow whitish shaft streaks; forepart of cheeks yellow, forming a short moustachial streak; foreneck, forepart of cheeks, breast, and flanks pale

ashy brown, washed with olive; chin yellow; throat dingy white; wing coverts and quills brown, externally olive yellow; tail light brown, the feathers margined with olive; under tail coverts yellow, under surface of body pale yellowish white, rather deeper yellow on the axillaries and under wing coverts; bill blackish; legs dark plumbeous; iris blood red.

*Length*.—6.5 to 7 inches; wing 3.35; tail 3; tarsus 0.85; culmen 0.7.

*Hab.*—Central and South India, also Ceylon. It is recorded from Madras, Malabar and Trevandrum. Jerdon says it is a tolerably common bird in many parts of the south of India; rare in others. Common in the low jungles of Malabar and in the bushy jungle and gardens in the Carnatic, also throughout the Northern Circars to Goomsoor. Common in Midnapore. (Hume.) It is usually seen alone and avoids observation. It flies from bush to bush with a fine, loud, clear, thrush-like warble, and feeds entirely on fruit. It breeds about Bombay. According to Mr. Hume it builds in a bush a rather loose structure of twigs lined with fine grass roots, &c., cobwebs and wool being used to tie it firmly to its support. Eggs 2—4 in number, reddish white, with darker lake red spots. They are elongated ovals and measure 0.92 × 0.62.

**458. *Pycnonotus finlaysoni*, Strickl., *Ann. Nat. Hist.* xiii. p. 411; Blyth, *J. A. S. B.* xiv. p. 568; Sharpe, *Cat. B. Br. Mus.* vi. p. 144; Oates, *B. Br. Burm.* p. 193. *Ixus finlaysoni*, *Bp. Consp.* i. p. 266; Blyth and Wald., *B. Burm.* v. p. 134; Hume, *Str. F.* iii. p. 301; Hume and Dav. vi. p. 307; Hume, *Str. F.* viii., p. 98.—FINLAYSON'S BULBUL.**

Crown of the head and nape deep grey with pale centres; forehead and head as far back as the eyes bright yellow; lores black; above the lores a small streak of orange; cheeks, ear coverts, throat, chin, and upper neck grey with bright golden mesial streaks; upper surface of body and wing coverts olive green, the back washed with ashy; quills brown, externally yellowish olive; tail olive green, brighter on the outer webs; breast, flanks, and upper abdomen dark ashy with pale shafts; centre of abdomen yellowish grey; vent and under tail coverts bright yellow; edge of wing, under wing coverts, and axillaries also yellow; bill bluish black; irides pale brown; legs dark plumbeous.

*Length*.—7.6 inches; wing 3.2; tail 3.3; tarsus 0.8; culmen 0.7.

*Hab.*—The whole of Tenasserim, also Arrakan. It ranges down the Malaya Peninsula as far as Malacca, and extends to Siam and Cochin-China.

**459. *Pycnonotus davisoni* (Hume), Sharpe, *Cat. B. Br. Mus.* vi. p. 145; Oates, *B. Br. Burm.* i. p. 194. *Ixus davisoni*, Hume, *Str. F.* 1875, p. 301; Armstrong, *Str. F.* iv. p. 324; Oates, *Str. F.* vii. p. 47; Hume, *Str. F.* viii. p. 98; Oates, *Str. F.* x. p. 209. *Ixus annectens*, Wald. *Ann. Nat. Hist. Ser. 4*, xv. p. 401; Hume, *Str. F.* iii. p. 404; Wald. in *Bl. B. Burm.* p. 134; Wardlaw-Ramsay, *Ibis*, 1877, p. 466.—DAVISON'S BULBUL.**

Whole head dull olive yellow, the crown rather bright yellow; a loreal spot of orange; ear coverts olive yellow; throat olive yellow, the feathers with ashy bases; breast and sides of the body ashy brown, slightly washed with olive; lower abdomen, vent, under wing coverts, axillaries, edge of wings, and under tail coverts bright yellow; thighs olive, yellow behind; back and rump ashy brown washed with olive; upper tail coverts olive yellow; wing coverts olive green; quills brown, edged on the outer webs with olive green; the primaries edged externally with olive yellow; tail olive brown, the feathers margined externally with olive yellow; bill dark horny or dusky black; legs and feet dusky black; iris brownish white or pale yellow.

*Length*.—7·7 inches; wing 3·3; tail 3·1; tarsus 0·75; culmen 0·7.

*Hab*.—The Western Burmese countries from Arrakan to Rangoon. Oates says it is confined to the southern portion of Pegu and that it is abundant at Rangoon, also at Kyakpadien and near the Sittang River. Mr. Blanford met with it at Bassein.

This Bulbul, Oates adds, is a bird of the cultivated parts of the country. It is usually found in gardens, clearings, and the neighbouring scrub jungle. It has a pleasant cheerful note, and where one bird is seen others are generally found. Two nests were taken by Oates near Kyakpadien in the beginning of June. They were placed, one in a bush and the other in a creeper about 4 feet from the ground. They were flimsy, shallow cups made of dry weeds and lined with grass, and contained two eggs each. Eggs pinkish white, marked with red and purple.

**460. *Pycnonotus xantholæmus*, *Jerd. Madr. Journ.* xiii. p. 122; *id. Ill. Ind. Orn.*, pl. 35; *Blyth J. A. S. B.* xiv. p. 568; *Sharpe, Cat. B. Br. Mus.* vi., p. 146. *Brachypus xantholæmus*, *Bp. Consp. Av.* i., p. 264. *Ixus xantholæmus*, *Jerd. B. Ind.* ii. p. 85, No. 453; *Hume, Str. F.* 1879, p. 98.—JERDON'S YELLOW-THROATED BULBUL.**

Head and sides of the face yellowish olive; fore part of cheeks and throat bright yellow; general color above ashy grey; wing coverts and quills light brown margined externally with olive; upper tail coverts dull olive; tail feathers light brown edged with olive, all but the centre ones tipped with yellowish white, increasing in extent towards the outermost feathers; under surface of body light ashy grey from the fore-neck downwards, the centre of the abdomen white; thighs and under tail coverts yellow; under wing coverts and axillaries light yellow; bill and legs black; irides red (Sharpe).

*Length*.—7·6 inches; wing 3·2; tail 3·2; tarsus 0·8; culmen 0·7.

*Hab*.—Southern India, confined to the Eastern Ghauts west of Nellore.

**461. *Pycnonotus blanfordi*, *Jerd. Ibis*, 1862, p. 20; *Anderson, Yunnan Exp.*, p. 659; *Sharpe, Cat. B. Br. Mus.* vi. p. 151; *Oates, B. Br. Burm.* i. p. 195. *Pycnonotus familiaris*, *Bl. J. A. S. B.* xxxi. p. 343.**

*Microtarsus blanfordi*, *Hume, Str. F.* iii. p. 125; *Ixus blanfordi*, *Bl. and Wald. B. Burm.* p. 134; *Oates, Str. F.* v. p. 156; *Hume, Str. F.* viii. p. 98; *Oates, Str. F.* x. p. 210—BLANFORD'S BULBUL.

Cheeks and throat dull white; ear coverts brown with distinct silvery white shaft lines; lores greyish tinged with fulvous; whole upper plumage and tail olive brown; the forehead and crown paler with dark centres to the feathers; wings like the back, the outer webs of the quills edged externally with fulvous yellow; neck and breast brownish grey, mingled with a good deal of fulvous; abdomen, sides of the body, under wing and tail coverts pure fulvous; thighs fulvous brown; axillaries the same; bill light brown, paler at the base of the lower mandible and gape; legs clear plumbeous; irides pale yellowish brown; eyelids greenish plumbeous.

*Length*.—7·5 to 7·7 inches; wing 3·2 to 3·3; tail 3·2 to 3·45; tarsus 0·8; culmen 0·7.

*Hab.*—Indo-Chinese sub-region. Found in Burmah and Upper Pegu, ranging into the hills of Cochin-China. Its habits are similar to those of the last, also its nidification.

**462. *Pycnonotus plumosus*, *Myth, J. A. S. B.* xiv. p. 567; *Salvad. Ucc. Born.* p. 198; *Sharpe, Cat. B. Br. Mus.* vi. p. 152; *Oates, B. Br. Burm.* i. p. 196. *Brachypus plumosus Tweedd. Ibis*, 1877, p. 307. *Ixus plumosus, Hume and Davison, Str. F.* vi. p. 309; *Hume, Str. F.* viii. p. 98.—THE LARGE OLIVE BULBUL.**

Upper plumage olive brown, rather darker on the head, the feathers edged with olive green; lower back, rump, and upper tail coverts slightly clearer olive brown; the wing coverts darker than the back and more strongly shaded with olive yellow; quills brown, edged on their outer web with olive yellow; tail the same, the feathers margined with olive yellow; cheeks and ear coverts brown with dull white shaft streaks; under surface of body earthy brown, darker on the sides of the breast and flanks; chin, throat, and centre of abdomen dull whitish; under tail coverts buffish or olivaceous ochrey; under wing coverts, axillaries, and edge of wing buff or saffron-yellow; bill blackish brown; legs and feet reddish brown; irides deep red or burnt sienna.

*Length*.—7·5 to 7·8 inches; wing 3·3 to 3·5; tail 2·8 to 3·2; tarsus 0·85; culmen 0·7.

*Hab.*—Sumatra and Borneo, ranging through the Malayan Peninsula to the southern part of the Tenasserim province. (Sharpe.) The British Museum possesses specimens from Sarawak, Labuan, Sumatra, and Malacca. Oates says it inhabits Tenasserim as far north as Pabyin, which is a village close to Mergui, and quotes Dr. Tirand to the effect that it is common in Cochin-China, and Mr. Davison that it keeps chiefly to the forests and does not appear ever to descend to the ground.







*Pycnonotus pusillus.*

**463. *Pycnonotus simplex*, Less. Rev. Zool. 1839, p. 167; Sharpe, Cat. B. Br. Mus. vi. p. 153, pl. ix; Oates, B. Br. Burmah. i. p. 196. *Pycnonotus brunneus*, Blyth, J. A. S. B. xiv. p. 568; *id.* Cat. B. Mus. As. Soc., p. 210. *Ixus brunneus*, Bp. Conspect. i. p. 266. *Microtarsus olivaceus*, Moore, in Horsf. and Moore, Cat. B. Mus. E. I. Coy. i. p. 249. *Ixus brunneus*, Hume and Dav., Str. F. 1878, p. 312; Hume, Str. F. 1879, pp. 62, 98.—MOORE'S OLIVE BULBUL.**

Whole upper plumage, including the entire head dull brown washed with olive; tail rufescent olive brown; quills and wing coverts brown with olive margins to the feathers; throat dusky yellowish white, also the chin; fore-neck, breast and sides of body earthy brown washed with olive; centre of body, abdomen, and under tail coverts yellowish white, also the under wing coverts and axillaries; bill dark horny brown, the lower mandible paler; irides variable orange red, pale red or white pink, or crimson and Indian red.

*Length*.—6·8 to 7·5 inches; wing 2·8 to 3·4; tail 2·78 to 3·27; tarsus 0·65 to 0·75.

*Hab.*—Java, Sumatra, and Borneo, extending up the Malayan Peninsula as high as Tenasserim, where it is sparingly distributed throughout the province south of Tavoy.

Mr. Sharpe remarks that great variation exists in the shade of colour in this species, some specimens being much lighter and others darker. He attributes this "to the fading of the plumage after death, somewhat in the same way as the skins of the different *Hypsipetes*, which lose their colour when preserved. See *Str. F.* 1878, pp. 309-312 for remarks on the differences between this species and *P. plumosus*.

**464. *Pycnonotus salvadorii*, Sharpe, Cat. B. Br. Mus. vi. p. 401; Oates, B. Br. Burm. i. p. 197. *Pycnonotus pusillus*, *Salvad. Ucc. Born.*, p. 220; Sharpe, Cat. B. Br. Mus. vi. p. 401, pl. X. *Ixus pusillus*, Hume, *Str. F.* vi. p. 312; viii. p. 98.—THE SMALL OLIVE BULBUL.**

#### PLATE.

Above olive brown, slightly rufescent on lower back, rump, upper tail coverts, and tail; the wing coverts olive brown; quills dark brown with olive margins; lores, ear coverts, and sides of the face ashy brown; throat and chin ashy white; breast and sides of the body ashy brown washed with yellow; abdomen, vent, and under tail coverts dusky yellow; under wing coverts olive brown, rather more yellowish on the edge of the wing; axillaries dull yellow. Bill black; legs and feet pale reddish horny; irides crimson.

*Length*.—6·5 inches; wing 2·85 to 2·9; tail 2·9; culmen 0·55; tarsus 0·6.

*Hab.*—The same as the last, but sparingly distributed.

#### *Gen. Otocompsa.*—*Cab.*

Bill moderately long and thin, the gonys upcurved; head conspicuously crested; crest erectile, longer than the tarsus.

**465. *Otocompsa jocosa* (Linn.),** *Jerd. B. Ind.* ii. p. 92; *Godw.-Aust.*, *J. A. S. B.* 1870, p. 106; *Sharpe, Cat. B. Br. Mus.* vi. p. 159; *Oates, B. Br. Burm.*, i. p. 198. *Lanius jocosus*, *Linn. Syst. Nat.* i. p. 138. *Ixos Jocosus*, *Pears. J. A. S. B.* x. p. 640. *Pycnonotus jocosus*, *Blyth, J. A. S. B.* xiv., p. 566. *Otocompsa monticola*, *Blyth, Ibis*, 1867, p. 8; *Hume, Str. F.* 1873, p. 309; *Bl. B. Burm.* p. 135; *Hume, Str. F.* 1879, p. 98. *Otocompsa emeria*, *Hume, Str. F.* 1873, p. 309; 1874, pp. 225, 447; *id. Nests and Eggs, Ind. B.* p. 287; *Ball, Str. F.* 1874, p. 410; *Hume, Str. F.* 1875, p. 126; *Armstrong, Str. F.* 1876, p. 325; *Hume, Str. F.* 1877 p. 35; *Oates, t. c.* p. 157; *Hume and Davison, Str. F.* 1879, pp. 63, 98; *Scully t. c.* p. 296.—The RED-WHISKERED BULBUL.

Head crested, black; cheeks and ear coverts white, *with a tuft of glossy hair-like crimson feathers springing from under the eye and reaching to the ends of the ear coverts crimson*; a narrow black line separates the cheeks and ear coverts; sides of the neck and a patch on either side of the breast brownish black; chin and under surface of body white; under tail coverts crimson; edge of wing pinkish; under wing coverts dull white; plumage above light hair brown, the quills darker and edged with light hair brown; tail the same, *except the four central feathers tipped with white*. Bill and legs black; irides brown. The young have no crimson under the eye; the head is dark brown and the plumage fulvous.

*Length*.—6·5 to 7·8 inches; wing 3 to 3·15; tail 3·2 to 3·3; culmen 0·7; tarsus 0·75.

*Hab.*—The Central Himalayas to Assam and throughout the Burmese countries and Southern China down the Malayan Peninsula and also to the Andamans. Common in the Punjab, N.-W. Provinces, Oudh, Bengal, Assam, Sikkim, and Nepaul, affecting well-wooded districts. According to Jerdon, it is rare in the Carnatic. It periodically visits Madras; is generally spread on the Western Coast; and abundant on the Neilgherries. It is rare in the Central tableland, common in the Northern Circars and Lower Bengal. Oates says it is one of the best known birds of Burmah. Abounds in the whole of Pegu except in the portion lying between Prome and Thayetmyo, where it is either rare or absent. Common throughout Tenasserim, and diffused over Cochin-China, the Indo-Burmese countries, and almost the whole peninsula of India. It is a pretty bird, and is generally seen in gardens. It lives on fruit and seeds, and is like *P. hamorrhous*, caged or trained by hand. It breeds from March to the end of May. The nest is placed in a bush or on creepers. The nest is saucer-shaped, and like that of other species of *Pycnonotus*. Eggs 3 to 4, three being the normal number; colour pinkish white, thickly mottled and blotched with purplish red.

**466. *Otocompsa emeria* (Linn.),** *Sharpe, Cat. B. Br. Mus.* vi. p. 159. *Muscicapa emeria*, *Linn. Syst. Nat. Hist.* i. p. 326 (*ex. Albin*).

*Lanius emeria*, *Shaw, Gen. Zool.* vii. p. 332. *Hæmatornis jocosus*, *Ferd., Madr. Journ.* x. p. 250. *Otocompsa fuscicaudata*, *Gould, B. Z. S.* 1865, p. 664; *Hume, Str. F.* 1873, p. 309; *id., Nests and Eggs, Ind. B.* p. 288; *Butler, Str. F.* 1875, p. 473; *Fairbank, Str. F.* 1876, p. 258; *Hume, t. c.* p. 458; *Fairbank, Str. F.* 1877, p. 405; *id., Str. F.* 1879, p. 98.—THE MADRAS RED-WHISKERED BULBUL.

Above earthy brown, the wings and tail brown like the back, the outer coverts and the quills and tail feathers rather darker, all the shafts of the feathers reddish brown; head and nape blackish brown with a very long crest, the forehead, lores, and feathers under the forepart of the eye also blackish; *under the hinder part of the eye a tuft of bright crimson feathers*; ear coverts pure white; cheeks the same, and separated from the ear coverts by a narrow line of black running from below the forepart of the eye to the sides of the neck; throat and foreneck pure white, also the centre of the body; sides of body and thighs brown, sides of the upper breast deep brown, extending in a half crescent on each side of the breast; *tail feathers uniform, not tipped with white*; under tail coverts scarlet; under wing coverts isabelline brown. (Sharpe.) Bill black; feet greyish plumbeous; irides brown.

*Length*.—8 to 8·2 inches; wing 3·2 to 3·5; tail 3·5; culmen 0·7; tarsus 0·8.

*Hab.*—Southern India, Guzerat and Khandeish, also the Deccan. It has been recorded from Mount Aboo, the Eastern Ghauts above Nellore, the Satpooras, Madras, Neilgherries, Coorg, Deccan, Malabar, Trevandrum (Travancore), and Khandeish.

In its habits the Southern Red-whiskered Bulbul is not unlike others of the Pycnonotine group. It is, like *Jocosa*, caught, caged, and trained to do various feats.

It breeds from February to May. The nests are usually placed at no great height from the ground in some thick bush, and are usually composed of grass, roots, and twigs, or fine grass with roots and dry fern or other dead leaves intermixed. Eggs, 3 to 4 in number, pale pink, with thickly freckled, mottled, and streaked spots of purple and brick red, more dense at the larger end. Size 0·82 to 0·97 × 0·62 to 0·71. Hume gives the average of 36 eggs as 0·9 × 0·66.

**467. *Otocompsa leucogenys*** (*Gray and Hardwick*), *Ferd. B. Ind.* ii. p. 91, No. 458; *Hume, Nests and Eggs, Ind. B.* p. 285; *id. Str. F.* 1879, p. 98; *Scully, t. c.* p. 296. *Brachypus leucogenys*, *Gr. and Hardw., Ill. Ind. Zool.*, i. p. 35, fig. 3. *Pycnonotus leucogenys*, *Blyth, J. A. S. B.* xiv. p. 567. *Ixos leucogenys*, *Bp. Consp.* i. p. 265.—THE WHITE-CHEEKED CRESTED BULBUL.

Top of head and nape hair brown; the feathers long and forming an erectile crest, the feathers of which are slightly recurved and margined with dull whity brown; lores and feathers round the eye black; a streak of white

from the nostrils to above the fore part of the eye; ear coverts and cheeks silky white; a small spot of blackish brown behind them; rest of cheeks and throat blackish brown. Above pale earthy brown or ashy brown washed slightly with olive; upper tail coverts darker; wing coverts and quills brown, edged with dull olive; tail dark brown, paler at the base, edged with olive and tipped with white; under surface of the body ashy or pale whitey brown, mottled with dusky mesially; under tail coverts bright yellow; under wing coverts and axillaries ashy brown. Bill black; feet plumbeous; irides light brown.

*Length*.—7·5 inches; wing 3·55 to 3·7; tail 3·4 to 3·6; culmen 0·7; tarsus 0·85.

*Hab*.—The Himalayan range from Cashmere to Bhootan to 5,000 feet elevation. Abundant in Sikkim. Feeds on seeds, fruits, and insects. Nest of the same construction as that of *O. emeria*. Eggs 3 to 4; colour and size same as those of *emeria*, pinkish or rosy white, speckled, blotched, and streaked with purplish or claret.

**468. *Otocompsa flaviventris* (Tickell), Sharpe, Cat. B. Br. Mus., Oates, B. Br. Burm. i. p. 199. *Vanga flaviventris*, Tickell, J. A. S. B. ii. p. 573. *Rubigula flaviventris*, Jerd. B. Ind. i. p. 88, No. 456; Bl. B. Burm. p. 136; Hume, Str. F. 1878, p. 317; id. Str. F. 1879, p. 98; Scully, Str. F. 1879, p. 295.**—THE BLACK-CRESTED YELLOW BULBUL.

Whole head, which is crested, chin, and throat black; sides of the neck and lower plumage yellow; upper plumage olive yellow, also the wing coverts; quills dusky brown, externally olive yellow; tail brown, margined with yellow; under wing coverts yellowish white. Bill black; legs and feet dark plumbeous or greenish black; irides pale yellow.

*Length*.—7·4 to 7·6 inches; wing 3·3 to 3·65; tail 3·5 to 3·6; culmen 0·6; tarsus 0·7.

*Hab*.—The Himalayas, from Nepal to Bhootan, extending into Assam, Arrakan, and Burmah, also in the forests of Central India, where it was, according to Jerdon, procured by Tickell. Jerdon found it in the warm valleys of Sikkim from 1,200 to 3,000 feet, and most abundant in the lower elevation as on the banks of the Runjeet. He adds that it associates in small flocks, is lively and active, and has the usually twittering notes of the family. Oates says it is common throughout Pegu, both in the hills and in the plains, and that Capt. Wardlaw-Ramsay observed it in Karennee. He also remarks that it is spread throughout the whole of Tenasserim. It ranges into Cochinchina and necessarily into Siam. It is found in the Indo-Burmese countries, also in the Eastern Bengal Hills. It nests in bushes about three feet from the ground. Structure cup-shaped, made of twigs and roots, and lined with grass. Eggs three in number, white, marked with pink and claret.

*Gen. Rubigula.—Blyth.*

Bill as in *Otocompsa*, but broader than it is high; rictal bristles moderate; tail slightly rounded or nearly even. Head more or less crested; feathers of the back lax and decomposed.

**469. *Rubigula gularis* (Gould), Blyth, *J. A. S. B.* xiv. p. 576; xv. p. 287; *Jerd.*, *B. Ind.* ii. p. 87; *Hartl.*, *Str. F.* 1877, p. 405; *Hume*, *Str. F.* 1879, p. 98. *Brachypus gularis*, *Gould*, *P. Z. S.* 1835, p. 186; *Bp. Consp.* i. p. 264; *Walden*, *Ibis*, 1866, p. 423. *Pycnonotus gularis*, *Gray*, *Gen. B.* i. p. 237.—THE INDIAN RUBY-THROATED BULBUL.**

Crown and nape and entire sides of head glossy black; upper surface, including the wing coverts, yellowish olive green, the latter edged with brighter yellow; quills dusky brown, the outer webs yellowish olive, which again is narrowly edged with brighter yellow; tail olive brown, edged with olive yellow. A small black chin spot present; throat shining ruby red, the feathers rather bristly; under surface of the body from the lower throat bright yellow, the sides of the breast and flanks washed with olive; under wing coverts and axillaries yellowish white. Bill black; legs greenish dusky; irides light yellow.

*Length*.—6 inches; wing 2·8; tail 2·5; culmen 0·6; tarsus 0·6.

*Hab.*—Southern India, in the forests of Malabar, extending from Travancore to North Canara. Jerdon observes that it frequents open spots and glades in thick jungle, and that it is usually found in the neighbourhood of water. It lives in small families, is sprightly and active, hopping about the smaller branches of trees, and uttering now and then its pleasant twitter.

**470. *Rubigula cyaniventris* (Blyth), Sharpe, *Cat. B. Br. Mus.* vi. p. 109; *Oates*, *B. Ir. Eur.* i. p. 200. *Pycnonotus cyaniventris*, *Blyth*, *J. A. S. B.* xi. p. 792; *Strickl.*, *P. Z. S.* 1846, p. 101. *Ixidra cyaniventris*, *Bp. Consp.* i. p. 260; *Stol.*, *J. A. S. B.* xxxix, p. 316; *Hume and Dav.*, *Str. F.* 1874, p. 477; *Hume*, *Str. F.* 1878, p. 320; 1879, pp. 63, 98.—THE GREY-BELLIED BULBUL.**

Head, neck, sides of the neck, ear coverts, sides of the face, and lower plumage deep slaty blue; lores black; a streak over the eye and forehead paler slaty; upper plumage, including the wing coverts bright greenish yellow; quills dark brown, all but the first two primaries broadly edged with greenish yellow, brighter than the colour of the back; tail light brown, the feathers washed with olive yellow on their outer webs; under tail coverts and edge of the wing bright yellow; under wing coverts very pale sulphur yellow; thighs dusky grey washed with olive yellow. Bill black; legs and feet very dark plumbeous; irides dark brown, dark plumbeous slate colour and grey brown.

*Length*.—5·5 to 6·5 inches; wing 2·95 to 3·12; tail 2·55 to 2·7; tarsus 0·55 to 0·65; culmen 0·5; from gape 0·75.

Females smaller and darker in colour.

*Hab.*—South Tenasserim down the Malay Peninsula to Sumatra. Oates says it is a rare straggler into the extreme southern portion of Tenasserim, where Mr. Davison got only one specimen, and who is quoted by Oates as to its being a bird of rather shy habits and on being disturbed retreats to dense cover in the forest.

**Gen. *Spizixus*.—Blyth.**

*Bill short and thick, nearly as high as long; nostrils hidden by dense plumes; rictal bristles well developed; laid forward it nearly reaches the first fourth of the bill, which is distinctly notched. Head crested.*

**471. *Spizixus canifrons*, Blyth, *J. A. S. B.* xiv. p. 571; xx. p. 520; *Godw.-Aust.*, *J. A. S. B.* 1870, vol. xxxix. p. 106; *Blyth, Ibis*, 1872, p. 90; *Sharpe, Cat. B. Br. Mus.* vi. p. 172.—The FINCH-BILLED BULBUL.**

Head strongly crested, the crown black, the nape slightly washed with grey; forehead ashy grey; ear coverts light brown; cheeks blackish, streaked with hoary grey; throat chocolate brown varied with hoary grey tips to the chin feathers; rest of under surface of body light olive greenish; brighter down the centre of the body and on the under tail coverts; under wing coverts and axillaries very pale yellowish, brighter olive yellow on the edge of the wing; upper surface of body dark olive yellow, yellower on the lower back, rump, and upper tail coverts; tail feathers dull olive yellow, browner on the inner web and having a broad terminal band of blackish brown; wing coverts like the back; quills dark brown, externally olive yellow, thighs like the flanks. (Sharpe.)

*Length.*—8 inches; wing 3·65; tail 3·7; tarsus 6·8; culmen 0·65.

*Hab.*—The Khasia Hills and Sylhet. The British Museum has a specimen from Chera Punji also.

**Sub-family II.—TROGLODYTINÆ.**

In this large sub-family of *Timeline* birds, we have only three genera inhabiting India, viz., *Anorthura*, *Pnoepyga*, and *Cinclus*, and these comprise in all six species, all inhabitants of the Himalayan range of hills. In their habits and in their form Sharpe states that they (the wrens) are essentially Timeliinæ. The group consists of birds which do not migrate, or if they do, do not go far. They have strong legs, concave and round wings, and a short or rudimentary tail. They live in moist places, and build domed nests.

**Gen. *Urocichla*.—Sharpe.**

Bill short, straight, somewhat depressed at the base; rictals smooth; wings short, rounded, and as long as or a very little longer than the tail; tarsus longer than the culmen, stout and strong. Nostrils linear and closed by an overhanging membrane; tail more than one-third the length of the bird.

**472. *Urocichla longicaudata* (Moore), Sharpe, Cat. B. Br. Mus.** vi. p. 263. *Pnoepyga longicaudata*, Moore, P. Z. S. 1854, p. 74; *Jerd.*, B. Ind. i. p. 490; *Godw.-Aust.*, J. A. S. B. xxxix. p. 101; *Hume, Str. F.* 1879, p. 93. *Pnoepyga chocolatina*, *Godw.-Aust. and Wald.*, *Ibis*, 1875, p. 252; *Hume, Str. F.* 1876, p. 218; *id.*, *Str. F.* 1879, p. 93.—The LONG-TAILED WREN.

Above deep olive brown, the feathers slightly margined with blackish; lower back, rump and upper tail coverts uniform olive brown; lesser and median wing coverts like the back; the greater wing coverts and quills somewhat rufescent; tail dull reddish brown; lores dusky; cheeks and ear coverts uniform dark olive brown; under surface of body light ochraceous buff, the flanks brown; breast and sides of the abdomen tipped with dusky and the feathers with whitish shaft streaks; chin and throat whiter than the breast; vent and under tail coverts dark ferruginous. Bill dark horny; legs paler; irides brownish.

*Length*.—4·5 inches; wing 1·95 to 2; tail 1·95 to 2·2; tarsus 0·85; culmen 0·5.

*Hab.*—Khasia and Manipur Hills.

#### Gen. *Anorthura*.—Rennie.

Bill moderately long, slender, compressed, and without notch; wings short and rounded; tail narrow, rounded and short, about one-third the entire length of the bird; nostrils, a longitudinal slit covered by membrane.

**473 *Anorthura nipalensis* (Blyth), Sharpe, Cat. B. Br. Mus.** vi. p. 277. *Troglodytes nipalensis*, Blyth, J. A. S. B. xiv. p. 589; *Bp. Consp.* i. p. 222; *Gould.*, B. Asia, pt. iv.; *Jerd.*, B. Ind. i. p. 491, No. 333; *Hume, Nests and Eggs, Ind. B.*, p. 218; *Hume, Str. F.* 1879, p. 93. *Troglodytes subhemalichanus*, *Hodgs. Icon. ined. Brit. Mus. Passeres* i., pl. 49.—The NEPALESE WREN.

Above dark chocolate brown or umber brown; the mantle, wing coverts and back barred with blackish, and the rump with a few white subterminal spots, and more reddish in colour; upper tail coverts rufous, barred transversely with blackish; quills brown, notched with reddish brown; primaries speckled with rufous or white on the outer web; tail rufous, also barred transversely with blackish; lores dull white; supercilium pale fulvous brown, with which colour the sides of the face and ear coverts are spotted; cheeks, throat and under surface of the body light rufous brown, barred transversely with dusky blackish, the abdomen less rufescent; under tail coverts rufous, barred with dusky blackish and tipped with white; under wing coverts whitish and barred with blackish. Bill brown; legs horny; iris hazel brown.

*Length*.—3·5 to 3·8 inches; wing 1·8; tail 1·2; tarsus 0·75; culmen 0·55.



**474. *Anorthura formosa* (Wald.), Sharpe, Cat. B. Br. Mus. vi. p. 270. *Troglodytes formosus*, Wald., *Ibis*, 1874, p. 91. *Troglodytes punctatus* (see *Bate*), *Blyth, J. A. S. B.* xiv. p. 589; *Bp. Consp.* i. p. 222; *Ferd., B. Ind.* i. p. 492; *Hume, Str. F.* 1874, p. 525; 1877, p. 238; and 1879, p. 93.—THE SPOTTED WREN.**

Above fuscous or smoky brown, each feather tipped with a whitish or fulvous spot; crown of the head unspotted, uniform smoky brown; wing coverts dusky brown, the spots being larger and more fulvous; greater coverts rufous, also tipped with fulvous, their outer webs mottled with fulvous; quills blackish, crossed with five broad bands of black, their outer webs margined with rufous; tail rufous, also barred with black; lores and sides of the face like the crown, but mottled with fulvous spots; throat light sandy buff, deepening in colour on the breast and abdomen; under parts mottled with triangular pale spots; under wing coverts and axillaries reddish brown, slightly mottled with dusky bars. Bill horny brown; legs pale brown.

*Length*.—4·6 inches; wing 1·75; tail 1·25; tarsus 0·7.

*Hab*.—Darjeeling, where it is said to be rare.

*Gen. Sphenocichla*.—*Godw.-Aust.*

Tail quite long, longer than the length of the wing; bill conical and pointed; the culmen and gonys straight; nostrils a narrow slit, covered by a horny membrane which overhangs the anterior edge of it.

**475. *Sphenocichla humii* (Mandelli), Sharpe, Cat. B. Br. Mus. vi. p. 283. *Heterorhynchus humii*, Mandelli, *Str. F.* 1873, p. 415. *Sphenocichla roberti*, *Godw.-Aust. and Wald., Ibis*, 1875, p. 250; *Hume, Str. F.* 1876, p. 217; *id., Str. F.* 1879, p. 95. *Stachyrihynchus roberti*, *Hume, Str. F.* 1876, p. 217, note; *id., Str. F.* 1879, p. 95.—HUME'S WEDGE-BILLED WREN.**

*Adult*.—(Native Sikkim, April, 1875; Mandelli.) General colour above scaly, the feathers being brown in the centre, edged with black; the feathers of the head and mantle with buffy-white shaft lines, less distinct on the lower back and rump; the dorsal feathers indistinctly waved with narrow blackish cross bars; upper tail coverts reddish brown, narrowly barred with

indistinct blackish cross lines; wing coverts like the back, edged and obscurely barred in the same manner; some of the greater coverts more ochraceous brown towards the tips; quills blackish brown, obsoletely barred with lighter brown and black externally, the bars a little more distinct towards the end of the secondaries; upper tail coverts and tail rather more reddish brown, numerously barred with blackish brown, the bars about 21 in number; forehead blacker than the head, with very distinct white shaft streaks; the lores and sides of the crown similarly coloured; an eyebrow of light ashy feathers tipped with white, drawn from above the eye to the sides of the neck, which is also mottled with ashy spots; ear coverts and cheeks blackish, narrowly streaked with white shaft lines, as also the fore part of the cheeks; under surface of body blackish brown, the feathers of the throat and breast obsoletely margined with dull ashy, producing a scaly appearance; chin with distinct white shaft lines; centre of breast ashy, the lateral feathers blackish, tipped with ashy; flank feathers and vent blackish, tipped with fulvous brown; under tail coverts entirely fulvous brown; under wing coverts light fulvous brown edged with blackish, the outer ones more ashy; quills brown below, ashy fulvous along the edge of the inner web.

*Total length*.—6·3 inches; culmen 1; wing 2·7; tail 2·6; tarsus 1·05 (*Mus. Col. Godwin-Austen*.)

*Adult Female* —(Konchungbum, Manipur Hills; H. Robert: type of *Sphenocichla roberti*.) Differs from the male in being reddish brown above, the feathers edged with black and subterminally spotted with ashy, producing a scaly appearance; the ashy spots absent on the head, and more rufescent on the lower back and rump; the upper tail coverts numerously barred with dusky; wing coverts like the back and spotted with ashy in the same manner; greater coverts with numerous dusky cross bars; quills dark brown, the secondaries rufous brown externally, the innermost lighter brown and barred across with dusky; primaries externally barred with fulvous brown and more narrowly with blackish; tail feathers dull brown, with numerous bars of dusky blackish, about 22 bars being perceptible on the central feathers; forehead a little clearer than the crown, the lores dusky; upper edge of eyelid white; ear coverts blackish with nearly obsolete whitish shaft lines, cheeks ashy whitish, the feathers with dark brown centres and blackish margins, producing a scaly appearance; throat and chest scaly, the feathers being olive brown in the centre, blackish on the margin, with a subterminal line of white; the feathers in the centre of the breast ashy, with less pronounced blackish edges, sides of body reddish brown, slightly washed with olive, and mottled by the presence of a few feathers which are edged with blackish, and subterminally marked with a line of dull white; under tail coverts rufous brown, subterminally marked with a line of dull white; under wing coverts brown, those near the edge of the wing ashy; quills dusky brown below, pale ashy rufous along the edge of the inner web.

*Total length*.—6·5 inches; culmen 1·15; wing 2·95; tail 2·7; tarsus 1·1 (*Mus. H. H. Godwin-Austen.*) (Sharpe.)

Hume's Wedge-billed Wren was originally discovered in Native Sikkim by Mr. Mandelli, and has since been found in the North Cachar and Muni-pur hills by Colonel Godwin-Austen. (Sharpe.)

Gen. **Pnoepyga**.—*Hodgson.*

General characters the same as in *Sphenocichla*; tail rudimentary or invisible, being completely hidden by the upper tail coverts and feathers of the rump; tarsi plain in front, scutellate at the base of toes; hind claw long and curved.

**476. Pnoepyga albiventris** (*Hodgs.*), *Sharpe, Cat. B. Br. Mus.* vi. p. 302; *Oates, B. Br. Burm.* i. p. 152. *Tesia albiventer*, *Hodgs., J. A. S. B.* vi. p. 102. *Microua squamata*, *Gould., Icones. Avium.* pl. v. *Pnoepyga albiventer*, *Hodgs., Icon. ined. in Mus. Br. Pass.* pl. xlvii.; *id., P. Z. S.* 1845, p. 25. *Pnoepyga squamata*, *Blyth, Cat. B. Mus. As. Soc.* p. 179; *Jerd. B. Ind.* i. p. 488, No. 329; *Wald. in Bl. B. Burm.* p. 99; *Godw.-Austen, J. A. S. B.* xxxix. pl. ii. p. 101; *Hume and Dav., Str. F.* vi. p. 234; *Hume, Str. F.* viii. p. 93.—THE SCALY-BREADED HILL WREN.

Upper plumage and wing coverts dark earthy or chocolate brown, darker at the tip of each feather, and with a subterminal fulvous spot; ear coverts dark brown, the feathers with fulvous shaft stripes; cheeks, chin and throat dull white, the edges of the feathers mottled with dusky; lower plumage whitish or fulvous, the feathers with dark centres; wings brown, the outer webs of the quills chocolate or earthy brown; under wing coverts ochraceous buff, edged with brown. Bill dusky brown; legs fleshy brown; irides brown.

*Length*.—3·5 to 4·5 inches; tail 0·6; wing 2·35; tarsus 0·1.

*Hab.*—Throughout the Himalayas ranging into the Karen Hills in Burmah. Jerdon says this is the largest of the hill-wrens, and that it is not uncommon about Darjeeling, and up to at least 8,000 feet elevation. He has seen it hunting under and on a fallen moss-clad tree, and now and then on a forest path by the trunk of some large tree to which it would cling for a few moments. In Burmah it has been procured by Capt. Wardlaw-Ramsay in Karennee. Mussoorie and Simla are given as localities in the N.-W. Provinces of India. They feed chiefly on insects, and sometimes eat seeds, and build on the ground under the trunk of a tree, making an oval nest with an entrance on one side.

**477. Pnoepyga pusilla**, *Hodgs P. Z. S.* 1845, p. 25; *Jerd. B. Ind.* i. p. 489, No. 330; *Hume and Dav., Str. F.* vi. p. 234; *Hume, Str. F.* viii. p. 93; *Sharpe, Cat. B. Br. Mus.* vi. p. 304; *Oates, B. Br. Burm.* i. p. 153.—THE BROWN HILL-WREN.

Above, including the lesser and median wing coverts, dark brown, the latter and the greater series, also the scapulars, tipped with a spot of ochraceous buff; quills margined externally with reddish brown; tail rufous brown; lores dull whitish; ear-coverts with narrow whitish shaft streaks; cheeks and throat dull white, with dusky edgings to the feathers; lower plumage white, with black centres; flanks dull brown or rufous brown, with fulvous edges; under wing coverts ochraceous buff. Bill blackish above, pale brown below; legs and feet pale brown; irides deep brown.

*Length*.—2·7 to 3·5 inches; wing 1·9 to 2; tail 0·5; tarsus 0·8; culmen 0·55.

*Hab*.—Eastern Himalayas, extending into Tenasserim. Occurs in the hill tracts of Eastern Bengal and in Nepaul. Mr. Davison, who got two species on the highest part of Mooleyit, says he always met it in dense fern growths edging the mountain streams in heavy forest. As a rule they do not fly when disturbed, but get away out of sight in the undergrowth.

**478. *Pnoepyga caudata*, Blyth, J. A. S. B. xiv. p. 588; *Godw. Aust.* J. A. S. B. xxxix. p. 101; *Jerd. B. Ind.* i. p. 490, No. 331; *Hume, Str. F.* 1879, p. 93; *Sharpe, Cat. B. Br. Mus.* vi. p. 305.—The TAILED HILL-WREN.**

Above dark olive brown, the feathers faintly edged with black; *no white or fulvous spots on the wing coverts*; tail reddish brown; lores, eyebrow, cheeks and ear coverts dusky or ashy grey; throat ferruginous, paling on the breast; under surface of body mottled with ochraceous, the feathers centred with dark brown; the lower breast and flanks barred and centred with linear streaks. Bill blackish; legs brown; irides brown.

*Length*.—3·3 to 3·7 inches; wing 1·9 to 2; tail 1·2; tarsus 0·75; culmen 0·5.

*Hab*.—Eastern Himalayas, and, according to Jerdon, Nepaul and Sikkim. He procured specimens at Darjeeling.

#### Gen. *Cinclus*.—*Bechst.*

Bill of moderate length, straight, cultrate and slightly ascending; no rectal bristles; nostrils longitudinal; wings concave; 1st quill very short; 3rd and 4th sub-equal and longest; tarsus longer than mid-toe.

The Dippers, as the members of this genus are called, form one of the most interesting group of birds among the whole class of Perchers, owing to their peculiar habit of procuring their food under water, though they are noted as birds of rapid flight. As far as I know, nothing has been investigated anatomically in regard to any special organs they possess for the purpose. That the feathers are like those of the Duck tribe impervious to water there can be no doubt, else they could not fly immediately on leaving the water. Their nests are made of moss and grass and placed on the banks of a stream,

under or among the roots of a tree or a crevice in a rock. They lay 4—6 pinkish white eggs.

**479. *Cinclus cashmeriensis*, Gould, P. Z. S. 1859, p. 474; *id.* B. Asia pt. xii. (1860); Salvin, *Ibis*, 1867, p. 117; *Blanf. J. A. S. B.* xii. p. 48; *Hume, Str. F.* 1879, p. 94; *Scully, Ibis*, 1881, p. 438. *Hydrobata cashmeriensis*, *Ferd. B. Ind.* i. p. 507; *Blyth, Ibis*, 1866, p. 374; *Hume and Henderson, Lahore to Yarkand*, p. 189. *Cinclus aquaticus*, var. *Cashmeriensis*, *Blf. E. Pers.* ii. p. 212.—The BROWN-BACKED WHITE-THROATED DIPPER.**

Crown of the head, ear coverts, lores and sides of face chocolate brown; wing coverts and upper back darker; lower back, rump and upper tail coverts slaty brown; an indistinct spot of white over and under the eye; cheeks, throat, foreneck and chest white; breast chocolate brown; the abdomen, flanks, thighs and under tail coverts deeper brown, the latter shaded with slaty grey; under wing coverts and axillaries dark brown; tail blackish brown, shaded and edged with slate color; quills the same. Bill black; legs pale brown.

*Length*.—6·8 to 7 inches; wing 3·7 to 3·9; tail 2·2 to 2·25; culmen 0·9; tarsus 1·1.

*Hab.*—The mountainous district of Asia Minor, Persia, the mountain ranges of Cashmere and Ladak, the hill regions of Sikkim north of Darjeeling and thence into China.

**480. *Cinclus asiaticus*, Swains., *Faun. Bor. Amer. Bird.* p. 174; *Gould, B. Asia*, pt. xii.; *Blanf. J. A. S. B.* xli. p. 48; *Hume, Str. F.* 1879, p. 94; *Scully, Str. F.* 1879, pp. 281, 365, 367. *Hydrobata asiatica*, *Gray, Gen. B.* i. p. 215; *Ferd. B. Ind.* i. p. 506; *Blyth, Ibis*, 1866, p. 375; *Stoliczka, Ibis*, 1868, p. 33; *Godw.-Aust. J. A. S. B.* xxxix. p. 102; *Biddulph, Ibis*, 1881, p. 52; *Scully*, t. c. p. 437.—The HIMALAYAN DIPPER.**

Above and below uniform pale brown; median and greater coverts, also the quills, edged externally with paler margins; axillaries and under wing coverts dark chocolate brown. Bill black; legs pale brown. Soles of the feet yellow; iris dark brown. The young is mottled with dusky and whitish; the quills are edged with white, and the tail tipped with white.

*Length*.—7·5 inches; wing 3·8; tail 2·25; culmen 0·85; tarsus 1·15.

*Hab.*—Afghanistan, Punjab, N.-W. Provinces, Oudh and Nepaul, and from Cashmere to Bhootan and the Khasia Hills.

### Gen. *Myiophoneus*.—*Temm.*

Bill large, strong, compressed, of moderate length, hooked at tip, and much higher than broad at nostrils; rictal bristles few or almost wanting; nares round with some frontal plumes and hairs at their base; wings long, rather pointed; 4th and 5th quills nearly equal, the 5th generally the longest; tail moderate; tarsus large, stout, entire, or with a subterminal scute.

These birds are generally known as Whistling Thrushes. They are birds of fairly large size, black plumage, glossed or enamelled with blue, and their bills are either yellow or black. They have a range from Turkestan to Afghanistan and the whole of India and Ceylon, throughout the Burmese countries and China. According to Sharpe apparently absent in the Malayan Peninsula, but re-occurs in Java and Sumatra.

**481. *Myiophoneus Temmincki*, Vigors, P. Z. S. 1831, p. 171; Gould, Cent. Him. B. Pl. 21; Tem. Pl. Col. ii. livr. 29; Blyth, J. A. S. B. xvi. p. 154; Bp. Consp. i. p. 258; Ferd., B. Ind. i. p. 500; Hume and Hend., Lahore to Yarkand, p. 187; Hume, Nests and Eggs, Ind. B. p. 221; Hume and Oates, Str. F. 1874, p. 105; Hume, Str. F. 1874, p. 331; Bl. and Wald. B. Burm. p. 98; Godw.-Aust., J. A. S. B. xlv. p. 72; Hume, Str. F. 1877, p. 30; id. and Dav., Str. F. 1878, p. 236; Hume, Str. F. 1879, p. 93; Scully, t. c. p. 281; Biddulph, Ibis, 1881, p. 52; C. Swinhoe, t. c. p. 105; Oates, B. Br. Burm. i. p. 18.—THE HIMALAYAN WHISTLING THRUSH.**

PLATE, figs. 1, 2, 3.

Above blue black, each feather tipped with glistening bright or glossy blue; lower back and rump rather ashy black, the feathers with concealed white shaft streaks; *lesser wing coverts brilliant purplish blue, forming a shoulder spot*; remainder of wing coverts black, washed with blue on the outer webs, *the median coverts tipped with white*; quills blackish, margined on their outer web with purplish blue; tail feathers the same; base of forehead and lores black; forepart of crown with a band of bright purplish blue; sides of face and ear coverts black, very narrowly streaked with silvery grey; under surface of body purplish black, the feathers mesially tipped with a spot of silvery grey; abdomen, thighs, vent and under tail coverts purplish black; under wing coverts and axillaries dingy black, slightly washed with purplish blue. Bill dull yellow; the culmen and the base of the upper mandible blackish; feet black; irides rich brown.

*Length*.—12 to 13·5 inches; wing 6·8 to 7; tail 5·5 to 6·4; culmen 1·4; from gape 1·55; tarsus 1·9.

The young are uniform dull blue black above and below, and want the glistening spots, and the white spots on the wing coverts.

*Hab.*—Turkestan, Afghanistan, throughout the whole of the Himalayas from Cashmere to Bhootan, extending to Siam and the Arrakan and Karen hills, in Burmah as far south as Thayetmyo. It is recorded by Sharpe (*Br. Mus. Cat.*) from Kandahar, Afghanistan, Peshawur, Cashmere, N.-W. Himalayas, Kumaon, Nepaul, Darjeeling, Upper Assam, Bhootan, and the Arrakan hills; and, according to Oates, the spurs of the latter nearly down to the Irrawaddy. Capt. Wardlaw-Ramsay procured it in the Karen hills. It is said to be resident wherever it occurs. Hume says it breeds throughout the Himalayas from Assam to Afghanistan in shady ravines and wooded glens from an elevation of 2,000 to

**482. *Myiophonus Eugeni*, Hume, Str. F. 1873, p. 475; *id. an Oates, Str. F. 1874, p. 106, id. and Dav., Str. F. 1878, vol. i. p. 236; id., Str. F. 1879, p. 93; Oates, B. Bru. Burm. p. 17.*—THE BURMESE WHISTLING THRUSH.**

Like *M. Temminckii*, but without the white spots at the tips of the wing coverts, which are glistening dull blue like the rest of the upper surface. Bill orange yellow; region of the nostrils and portion of the culmen dark brown; iris umber brown; eyelids straw yellow; legs black.

*Length*.—13 to 13·5 inches; culmen 1·4; wings 6·7; tail 4·9; tarsus, 2·1.

*Hab.*—Hills of Tenasserim and Pegu to the eastward of the Irrawaddy rivers extending to the Karen hills, where *M. Temminckii* is also found. Oates says it is found in the whole of Pegu, east of the Irrawaddy, wherever there are rocky nullahs. Captain Wardlaw-Ramsay observed it in the Karen hills. According to Davison, he adds, it is confined in Tenasserim to the hills and isolated limestone rocks of the northern and central portions only. Captain Bingham records it from the Thoungyeen Valley, and it is said to occur also in Siam. It is said by Oates to be abundant in rocky hill streams, going about singly or in couples, and to feed largely on land-shells, which it breaks to pieces against rocks in the nullah. He quotes Captain Bingham's account of the nesting of this beautiful thrush, which is to the effect that "on a frail and tottering foundation, as collected pieces of wood, leaves and other floating matter jammed in by force of water between a dam formed by a small tree which had drifted down a stream, and rising some six inches above the water, was placed a round, solid nest about nine inches in diameter, made of green moss and lined with fine black roots and fibres, in which lay four fresh eggs of a pale stone colour, sparsely spotted, especially at the larger end, with minute specks of reddish brown." Captain Bingham saw a pair of the birds and one of the parents sit on the eggs in the nest. In shape the eggs are said to be somewhat like those of a *Pitta*, and measure 2·45 × 1·02, 1·50 × 1·02, 1·46 × 1·01, and 1·50 × 1·01.

**483. *Myiophoneus horsfieldi*, Vig. P. Z. S. 1831, p. 35; Tem Pl. Col. livr. 29; Gould, Cent. Him. B. pl. 20; Ferd., B. Ind. i. p. 499; Ball, Str. F. 1874, p. 406; id., 1875, p. 292; Butler, t. c. p. 469; Fairbank, Str. F. 1876, p. 257; Bourd., t. c. p. 398; Fairbank, Str. F. 1877, p. 403; Dav. and Wenden, Str. F. 1878, ii. p. 81; Hume, t. c. p. 150; Ball, t. c. p. 467; Butler, t. c. p. 467; Sharpe, Cat. B. Br. Mus. vii. p. 10. *Arrenga horsfieldi*, Bp. Consp. i. p. 258.—HORSFIELD'S or the SOUTHERN INDIAN WHISTLING THRUSH.**

Base of forehead with a bright blue band, rest of the head, neck and mantle jet black, without any blue shade; lower back, rump and upper tail coverts ultramarine blue; wing coverts the same, the least series brighter and more cobalt, forming a shoulder spot; under surface of the body jet black; the feathers of the breast and abdomen broadly margined with bright ultramarine, and the flanks as well as the thighs, under tail coverts, under wing coverts and axillaries washed with the same; quills black, externally margined with ultramarine blue; tail dark blue. *Bill black*; legs brown black; irides dark brown.

*Length*.—10·6 to 12 inches; wing 5·5 to 6·16; tail 4·6; culmen 1·25.

*Hab.*—Central and Southern India. According to Jerdon it is found throughout all the forests of Southern and Western India from near the top of the Neilgherries to almost the level of the sea. It is not found on the plateau of the Neilgherries, but is abundant at Coonoor and Kotagherry. In Coorg and the Wynaad it is common at moderate elevations. It has been obtained in Malabar, also in the Pulney Hills and Travancore. Its song, Jerdon says, consists of four or five beautifully clear whistling notes, so like the whistle of a man or a boy as to be constantly mistaken for it. Its habits are quite those of its congeners. Its nesting, too, is not peculiar. Hume describes the eggs he received from Kotagherry and other places as broad, nearly regular ovals, slightly compressed towards the lesser end; considerably elongated and more or less spherical and pyriform varieties occur. Ground colour salmon pink or pinkish white, the whole finely speckled, splashed and spotted with pinkish brown or brownish pink, more dense at the large end, where they form an ill-defined cap. Length 1·1 to 1·35 inches; breadth 0·88 to 1·02 inches. A closely allied species, *M. cyaneus*, is found in Java, and another, *M. blighi*, is known from Ceylon.

#### Gen. *Callene*.—*Blyth*.

Bill more slender than in *Myiophoneus*, shorter than the head, and straight; the lower gonys slightly ascending; wings and tail rounded; 4th, 5th, and 6th quills equal and longest, the wing falling short of the tail by as much or more than the length of the tarsus; legs and feet slender; first primary more than half the length of the second.



**484. *Callene frontalis*.** *Blyth, J. A. S. B.* xvi. p. 136; *Moore, P. Z. S.* 1854, p. 75; *Ferd., B. Ind.* i. p. 496; *Blyth, Ibis*, 1866, p. 373; *Blanf., P. Z. S.* 1867, p. 833; *Hume, Nests and Eggs, Ind. B.* p. 220; *id., Str. F.* 1879, p. 93; *Sharpe, Cat. B. Br. Mus.* vii. p. 15. The BLUE-FRONTED SHORT-WING.

Above dull fusco-cyaneus; the rump dusky; crown of the head like the back; forehead black, *with a distinct band of cobalt blue extending on each side over the eye*; ear coverts, sides of the face, throat and breast dull fusco-cyaneus; the abdomen, sides of the body, flanks and thighs the same, but washed with ashy; *lesser and median wing coverts brighter than the back, and more cobalt blue, forming a wing patch*; quills and their coverts, bastard wing feathers and greater coverts blackish, edged externally with fusco-cyaneus; tail the same; under tail coverts dull ashy blue with whitish tips and margins; under wing coverts and axillaries like the breast, with a large patch of white near the outer edge formed by the outer greater coverts. Bill black; legs brown.

*Length*.—7 to 7·4 inches; wing 3·35 to 3·5; tail 3·4 to 3·5; tarsus 1·4; culmen 0·65.

*Hab.*—The Eastern Himalayas from Nepaul to Sikkim. Recorded from Darjeeling. It is said to be very rare, and the British Museum has three specimens only.

**485. *Callene albiventris*.** *Blanford, P. Z. S.* 1867, p. 833, pl. 39 (*ex Fairbank MSS.*); *Gould, B. Asia*, pl. xx., 1868; *Hume, Nests and Eggs, Indian Birds*, p. 220; *Fairbank, Str. F.* 1877, p. 402; *Hume, Str. F.* 1878, p. 35; *id. Str. F.* 1879, p. 93; *Butler, Cat. B. Bombay Pres.* p. 101; *Sharpe, Cat. B. Br. Mus.* vii. p. 15.—The WHITE-BELLIED SHORT-WING.

Crown of the head slaty blue; the base of the forehead black, *followed by a narrow frontal band of bluish white continued on each side over the eye*; lores and feathers round the eye black; ear coverts, sides of the face, throat, breast, back and rump slaty blue, the sides of the rump with long silky white plumes; lesser and median wing coverts slaty blue; greater and primary coverts and quills, also the tail feathers, blackish, margined externally with slaty blue; abdomen ashy white; sides of the body, flanks and thighs slaty blue; *under tail coverts white*; under wing coverts and axillaries slaty blue edged with white. Bill and feet dark brown; irides brown.

The female is like the male in colour, but has the lower flanks, thighs and under tail coverts tinged with rufous brown.

*Length*.—6 to 6·5 inches; wing 3·1; tail 2·4 to 2·6; tarsus 1·1; culmen 0·65.

*Hab.*—Southern India; Palani Hills extending to Travancore.

There is no account of the habits of this species in any of the books available to me. Mr. Hume, however, quotes the Rev. S. Fairbank's account of its

nidification in the Pulney Hills, from which it may be inferred that the White-bellied or Pulney Short-wing breeds during April in a hole in the side of the trunk of a tree, and that two is the normal number of eggs. Colour grey, with a tinge of green or olive brown, thickly covered with small spots of bistre. Size 0.9 × 0.68 inch.

**486. *Callene rufiventris*, *Ferd.*, *B. Ind.* i. p. 496; *id.*, *Ibis*, 1872, p. 132; *Hume*, *Nests and Eggs*, *Ind. B.* p. 219; *id.*, *Str. F.* 1879, p. 93; *Sharpe*, *Cat. B. Br. Mus.* vii. p. 16. *Phœnicura major*, *Ferd.*, *Madr. Journ.* xiii. p. 170; *Blyth*, *Cat. B. Mus. As. Soc.* p. 178.—THE RUFOUS-FLANKED SHORT-WING.**

Above slaty grey, the forehead paler, showing an indistinct band of paler blue; the lores and nasal plumes blackish, the former washed with slaty blue; sides of face and throat slaty blue, lesser and median wing coverts slaty grey; the greater series and quills blackish, externally washed with slaty grey; tail dusky, the feathers externally washed with slaty grey; abdomen white; sides of body and flanks reddish buff; under tail coverts brighter fulvous; under wing coverts the same, the axillaries also, but with grey bases. Bill black; legs dirty reddish; irides brown.

*Length*.—6.5 to 7 inches; wing 3.3; tail 2.6; tarsus 1.15; culmen 0.65.

*Hab.*—Southern India; confined to the Neilgherries. Reid in his "Cat. B. Prov. Mus., Lucknow," records it also from the Brahmagerries, Coorg. It breeds in holes or depressions of banks in the Neilgherries in April and May. The nests, Mr. Hume says, resemble those of *Niliava Macgregoria* from Darjeeling. They are soft masses of green moss, some 4 or 5 inches in diameter externally, lined with very fine dark moss roots. Eggs two in number, pale olive-brown mottled with reddish brown at the large end, and forming an ill-defined cap. Size 0.97 to 1.02 inch × 0.65 to 0.69 inch.

**Gen. *Notodela*.—*Less*.**

Bill short, slender, compressed, notched and slightly curved at the tip; rictus very feebly bristled; wings long, falling short of tail by less than the length of tarsus; 5th quill longest; tail moderately long, broad, slightly rounded; tarsi long and smooth.

**487. *Notodela leucura*, *Blyth*, *J. A. S. B.* xvi. p. 138; *Hume*, *Str. F.* 1874, p. 477; *id.*, *Nests and Eggs*, *Ind. B.* p. 306; *Sharpe*, *Cat. B. Br. Mus.* vii. p. 23. *Muscisylvia leucura*, *Hodgs.*, *P. Z. S.* 1845, p. 27. *Myiomela leucura*, *Hodgs.*, *P. Z. S.* 1845, p. 27. *Myiomela leucura*, *Ferd.*, *B. Ind.* ii. p. 118, No. 477; *Bl. and Wald. B. Burm.* p. 100; *Hume*, *Str. F.* vi. p. 103; *Hume and Dav.*, *Str. F.* vi. p. 334; *Oates*, *B. Br. Burm.* i. p. 23.—THE WHITE-TAILED BLUE-CHAT.**

*Male*.—Forehead, over the eye and the lesser wing coverts, bright small blue; the whole plumage indigo blue or blue black, the edges of the feathers only being of a blue colour; throat, breast and abdomen almost plain black,

the bases of some of the feathers of the side of the neck white, *forming a half concealed white patch*; wings black, edged with blue; tail feathers black, the basal portion of the outer web white; middle feathers entirely black.

The female is dull rufous brown, the wings edged brighter and the throat, cheeks and foreneck mottled with grey; the tail has similar white patches as in the male.

Bill, legs and feet black; irides deep brown.

*Length*.—6·5 to 7 inches; wing 3·45 to 3·8; tail 3 to 3·45; tarsus 1·05 to 1·1; culmen 0·7.

*Hab.*—The Himalayas, ranging into the Khasia and Burmese hills as far south as Tenasserim, at elevations of 3,500 feet and upwards. It has been procured on the Mooleyit and Karenne hills; and has occurred in the Khasia hills, whence it extends along the Himalayas as far as Sikkim to Mussoorie. Jerdon says it frequents dense underwood or very thick forest, perches low and seeks its food chiefly on the ground, which, according to Jerdon and Oates, is insects. Hodgson says that it feeds equally on pulpy berries. Wherever found this species appears to be resident. According to Hodgson it breeds in the central regions of Nepaul during the months of April and May, making its nest on some ledge of rock, more or less sheltered by grasses or bushes. The nest is a deep massive cup composed of mosses or of moss roots. Four eggs are said to be laid, and these are figured as moderately broad ovals, much pointed towards one end, measuring 0·9 × 0·65 inch, and of an uniform mottled or curdled pinkish clay colour. (Hume.) Mr. Hume also records a nest with two eggs taken by Mr. Gammie near Darjeeling at an elevation of about 4,000 feet. These eggs, Mr. Hume describes as uniform, very pale salmon pink, entirely devoid of all regular markings, though, if examined in a very bright light, they appear to be excessively faintly freckled all over with the palest possible grey, which is absolutely invisible unless looked very closely into. The eggs measure 0·95 × 0·69 and 0·91 × 0·69.

#### Gen. **Brachypteryx**.—*Horsf.*

Bill of moderate length, straight, slightly curved at the tip; a tuft of bristles at the base of the nostrils; wings short, rounded; 4th, 5th, and 6th quills longest; tail short; tarsus long.

**488. *Brachypteryx cruralis*, *Hodgs. Icon. ined. in Br. Mus. App.* pl. 73; *Blyth, J. A. S. B.* xvi. p. 136; *Jerd. and Bly., P. Z. S.* 1861, p. 201; *Jerd. B. Ind.* i. p. 495, No. 338; *Hume, Nests and Eggs, Ind. B.* p. 219; *Wald in Bly., B. Burm.* p. 99; *Hume, Str. F.* viii. p. 93; *Oates, B. Br. Burm.* i. p. 19; *Sharpe, Cat. B. Br. Mus.* vii. p. 26. *Calliope cruralis*, *Bly., J. A. S. B.* xii. p. 933. *Larvivora cruralis*, *Bp. Consp.* i. p. 301. *Brachypteryx hyperythra*, *Godw.-Aust. (nec. Jerd. and Bly.), J. A. S. B.* xxxix. p. 192 (1870 *teste G. A. in litt.*).—The WHITE-BROWED SHORT-WING.**

The whole plumage indigo blue; the quills dusky blackish, margined externally with indigo blue; rump with a half concealed spot of greyish white; lores black, bordered above by white, which is produced back over the eye; throat blue black; centre of breast ashy grey, whiter on the abdomen; under tail coverts ashy blue with whitish margins; under wing coverts ashy brown tinged with blue.

The female has the upper plumage, sides of the head and neck olivaceous brown; wings and tail rufous brown; also the lores extending over the eye, feathers round the eye, cheek and throat; remainder of under surface light ashy; sides of body fulvous brown; the under tail coverts brighter fulvous. Bill black; legs pale brownish.

*Length.*—5 to 5·25 inches; wing 2·4 to 2·7; tail 1·75 to 1·95; tarsus 1·15 to 1·2; bill from gape 1.

*Hab.*—The Eastern Himalayas, extending into the Burmese and Tenasserim hills. Oates says it has been observed in the Munipoor and Khasia hills, and, according to Jerdon, has been found in Sikkim and Nepaul. Darjeeling and Nepaul are quoted localities whence specimens have been procured. Hodgson describes the nest as made of moss, globular in shape and rather bulky; it is placed about one foot from the ground amongst grass and creeping plants at the base of trunks of trees. Eggs white.

**489. *Brachypteryx hyperythra*, *Jerd. and Blyth, P. Z. S.* 1861, p. 201 (descr. ♀); *Jerd., B. Ind.* i. p. 495, No. 337; *Hume, Str. F.* 1877, p. 499 (descr. ♂); *id., Str. F.* 1879, p. 93; *Sharpe, Cat. B. Br. Mus.* vii. p. 28.—The RUSTY-BELLIED SHORT-WING.**

Upper surface of the body, including the face, sides of the head and of the neck, also of the body, blackish cyaneous; a supercilium above the lores white; the base of the lower mandible, feathers above and below the eye, and a portion of the ear coverts black; *chin, throat, breast, abdomen and under tail coverts orange ferruginous*, a little paler on the chin, throat and middle of the abdomen. Bill carneous; legs fleshy; irides brown.

The female is described by Jerdon as dusky olive brown above; lores tinged with ferruginous, middle of the belly white. Length nearly 5 inches; wing 2·5; tail 1·75; bill at front 0·43. (Jerdon.)

*Length.*—5 inches; wing 2·5; tarsus 1·3; culmen 0·43. (Hume.)

*Hab.*—Eastern Himalayas. Jerdon procured a single specimen at Darjeeling.

**490. *Brachypteryx nipalensis*, *Moore, P. Z. S.* 1854, p. 74; *Jerd. and Blyth, P. Z. S.* 1861, p. 201; *Jerd. B. Ind.* i. p. 494, No. 336; *Blansf., J. A. S. B.* xli. p. 160; *Hume and Dav., Str. F.* vi. p. 236; *Hume, Str. F.* viii. p. 93; *Oates, B. Br. Burmah*, i. p. 19; *Sharpe, Cat. B. Br. Mus.* vii. p. 29.—The NEPAUL SHORT-WING.**

Upper plumage and sides of the head and neck dull cyaneous; lores black, bordered above by white, which is continued back over the eye; wings dusky brown, margined externally with cyaneous; tail feathers dusky, washed on the outer webs with cyaneous; *throat white, also the breast and abdomen*; foreneck, sides of the body, flanks and thighs ashy grey; under tail coverts white; under wing coverts ashy grey, edged with white; rump with a half concealed greyish white band.

The female has the upper plumage, including the wings and tail, rusty brown, the inner webs of quills plain brown, the outer margined with rusty brown; lores whitish or fulvous brown; a white patch over the lores and eye; breast and abdomen white; sides of body and flanks fulvous brown; throat dull white washed with fulvous brown; under wing and under tail coverts and axillaries light fulvous brown, also the foreneck and chest. Bill darkly horny; legs pale horn; irides light brown.

*Length*.—4·5 to 5 inches; wing 2·5; tail 1·4; bill at front 0·5.

*Hab.*—The Himalayās, extending to the Khasia, Burmese and the Tenasserim hills. Davison found it near the summit of the Mooleyit mountain in Tenasserim. It has also been found in the Khasia hills and in Sikkim and Nepaul. Davison says they keep entirely to the ground, hopping about amongst dead leaves and moss or on fallen trunks, picking up insects. Affects only dense forests, and by preference the banks of streams.

**491. *Brachypteryx stellata***, Gould., *P. Z. S.* 1868, p. 218; Gray, *Hdlist. Birds*, i. p. 312; Hume, *Str. F.* 1878, ii. p. 377; *id.*, *Str. F.* 1879, p. 93; Sharpe, *Cat. B. Br. Mus.* vii. p. 30.—The BARRED SHORT-WING.

*Adult* (type).—Above dull chestnut or rufous; the rump feathers loose and ashy brown, barred with black near the ends and tipped with white; wing coverts like the back; quills light sepia brown, externally rufous brown; upper tail coverts and tail feathers rufous or dull chestnut; outer feathers brown on the inner web; forehead slaty grey, vermiculated with blackish bars; lores and feathers in front of and below the eye, also the base of the cheeks, black; ear coverts grey, washed with brown and finely vermiculated with black lines; cheeks, sides of neck, throat and breast slaty grey, with finely vermiculated cross bars of black; the breast with arrowhead spots of white; abdomen and sides of body slaty grey, less strongly vermiculated with black and with large spots of white; lower abdomen and flanks tinged with brown, also the thighs and under tail coverts which are also vermiculated with black lines and spotted with white; under wing coverts and axillaries slaty grey, with narrow cross bars of black and spotted with white. (Sharpe.)

*Length*.—4·7 inches; wing 2·85; tail 1·9; tarsus 1·1; culmen 0·55. (Sharpe.)

*Hab.*—Sikkim.

Gen. **Chimarrhornis**.—*Hodgson*.

Bill moderately long, straight, slender, slightly notched; rictus nearly smooth; wings moderately long, the primaries rounded at the end; tarsus of moderate length, the outstretched feet not reaching the tip of the tail; feet moderate.

**492. Chimarrhornis leucocephalus** (*Vigors*), *Sharpe, Cat. B. Br. Mus.* vii. p. 47; *Anderson, Rep. Zool. Exp. Yunnan, Aves*, p. 614; *Godwin-Austen, J. A. S. B.* xlv. p. 79; *Hume, Str. F.* 1879, p. 100; *Scully, l. c.* p. 303; *Biddulph, Ibis*, 1881, p. 64; *Oates, B. Br. Burm.* i. p. 34. *Phœnicura leucocephala*, *Vigors, P. Z. S.* 1830, p. 35. *Chæmorornis leucocephala*, *Hodgs. in Gray's Zool. Misc.* p. 82; *Jerd., B. Ind.* ii. p. 143, No. 506; *J. A. S. B.* xxxvii. 64; *Hume and Henders., Lahore to Yarkand*, p. 214; *Blyth, B. Burm.* p. 101; *Reid Cat. B. Prov. Mus. Luck.* p. 101.—The WHITE-CAPPED RED-START.

Crown of the head and nape white; forehead, lores, sides of the face, cheeks, throat, neck all round, upper breast, upper back, wing coverts and a broad black band at the tip of the tail black; base of the tail, lower back, rump, upper tail coverts, lower breast, abdomen, sides of the body and flanks bright chestnut; thighs dusky brown; quills black, margined externally with blue black; under wing coverts black, also the axillaries, the latter edged with chestnut. Bill black; tarsus vinaceous brown; irides dark brown.

*Length*.—7 inches; wings 3·8 to 3·85; tail 3·1 to 3·5; tarsus 1·2; culmen 0·65.

*Hab.*—Entire Himalayan range from Gilgit, occurring throughout Western China to Kansu, and as far as the Ichang gorge on the Yangtze river. It also occurs on the Dafia hills and in Arrakan, and extends as far south as the second defile of the Irrawaddy river. (*Sharpe*.) According to *Jerdon* this handsome Red-start is found from the extreme N.-W. Afghanistan to the Khasia hills. In Sikkim it occurs from a level of 1,000 to 5,000 feet, but it is there only a winter visitant. *Dr. Anderson* procured it near Bhamo, and it also occurs in the hill ranges of Eastern Bengal. It is recorded by *Sharpe* from Cashmere, Kangra, Nepaul, Irrawaddy defile (2nd), and *Reid* in his Catalogue, from Ranibagh, Almora, Pethoragurh, and Kumaon, in the Himalayas. It affects the banks of rivers and streams, where it picks up insects near the water, but not the rapids of torrents. In its continual flittings, and spreading of the tail when feeding or picking, it resembles the Redstarts.

Gen. **Thamnobia**.—*Swains*.

Bill slender, as wide as high at the nostrils, slightly arched throughout; wings short and rounded, the 4th and 5th quills longest, the primaries hardly exceeding in length the secondaries and tertiaries; tail moderate, broad and rounded, the outer feather on each side shorter than the longest by the length of the tarsus.

**493. *Thamnobia fulicata* (Lin.),** *Ferd. Mad. Journ.* x. p. 264; *Blyth, J. A. S. B.* xvi. p. 139; *Layard, Ann. and Mag. Nat. Hist.* xii. p. 266; *Ferd. B. Ind.* ii. p. 121, No. 419; *Hume, Nests and Eggs, Ind. B.* p. 307; *Fairbank, Str. F.* 1876, p. 459; *Hume, Str. F.* 1877, p. 406; *id. Str. F.* 1878, ii. p. 55; *Ball t. c.* p. 216; *Legge, B. Ceylon*, p. 440.—The BROWN-BACKED INDIAN ROBIN.

Above glossy blue black; wings *with a large white spot formed by the lesser wing coverts*; median and greater coverts white, tipped with glossy blue black; primary coverts and quills brown, margined externally with blue black; lores, sides of the face and *under surface of body glossy blue black*; lower abdomen and under tail coverts bright chestnut. Bill, legs and feet black; irides brown.

*Length*.—6 to 6·8 inches; wings 2·5 to 2·7; tail 2·75; tarsus 1·0; culmen 0·55.

The female is larger and dusky brown, more sooty on the back and rump, the white shoulder patch is wanting, and the upper tail coverts are blue black; under tail coverts chestnut; feathers round the eye fulvous; cheeks and under surface of the body ashy brown, darker on the abdomen, sides of the body and flanks.

The young are entirely sooty brown with paler margins to the feathers; under tail coverts ferruginous.

*Hab.*—Central, Southern and Western India; also Ceylon.

The Indian Robin affects villages, and their neighborhood, chiefly ruins of old houses and mud-walls; also rocky and stony situations. It is usually seen in pairs, briskly hopping about on the ground or flitting from a branch to the ground, or *vice versa*, or from one large boulder to another, continually jerking its tail upwards on to the back of its head. It breeds from February to May, building its nest among rocks, in mud walls, in roofs of houses, or under tussocks of grass.

The nest is a neat structure of grass, roots and hair. The eggs are round ovals, moderately glossed, and of a greyish white or pale bluish white ground, thinly sprinkled here and there, and in some all over with spots and specks of pale yellowish brown. Size 0·68 to 0·76 inch  $\times$  0·55 to 0·56.

**494. *Thamnobia cambaiensis* (Lath.),** *Blyth, J. A. S. B.* xvi. p. 139; *Ferd. B. Ind.* ii. p. 122; *Beavan, Ibis*, 1867, p. 444; *Blanf. J. A. S. B.* xl. p. 273; *Hume, Nests and Eggs, Ind. B.* p. 309; *Ball, Str. F.* 1874, p. 412; 1875, p. 206; *Butler, Str. F.* 1875, p. 474; *Hume, t. c.* p. 474; *Ball, Str. F.* 1878, p. 216; *Hume, Str. F.* 1879, p. 99; *Vidal, Str. F.* 1880, p. 66; *Sharpe, Cat. B. Br. Mus.* vii. p. 55; *Murray, Hdbk. Zool. &c., Sind*, p. 145; *id. Vert. Zool. Sind*, p. 138.—The BROWN-BACKED INDIAN ROBIN.

Above earthy brown, darker on the lower back and rump; a white wing spot, the outer edges of the feathers blue black; quills brown, edged with paler brown; upper tail coverts blue black; lores, feathers above the eye, sides of the face, ear coverts and under surface of the body glossy blue black; lower abdomen and under tail coverts bright chestnut; thighs brown; under wing coverts like the breast. Bill and legs black; irides brown.

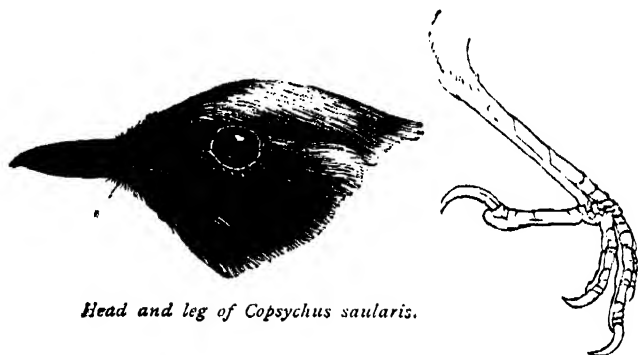
The female is paler earthy brown, and has no shoulder patch; the upper tail coverts are of the same color as the back; under surface brown.

*Length*.—5·6 to 6·8 inches; wing 2·7 to 2·75; tail 2·5 to 2·6; tarsus 1.

*Hab*.—Central and Northern India to the Himalayas. Found commonly in the Punjab, N.-W. Provinces, Sind, Kutch, Kattiawar, N. Guzerat, Jodhpore, the Concan and Deccan, also in Khandeish, and, as in Sind, is probably a resident of these places. In Sind it breeds from March to July. Eggs white or pale greenish white, speckled with pale red.

### Gen. *Copsychus*.—Wagl.

Bill moderately long and strong; culmen slightly curving and bent at the tip; nostrils basal, large; rictal bristles very scanty; wings with the 4th and 5th quills longest, the 3rd sub-equal; tail graduated; tarsus scutellated, moderately long and stout; mid toe long; claws curved.



*Head and leg of Copsychus saularis.*

**495. *Copsychus saularis* (Lin.), Wagler, Syst. Av. 1827; Blyth, J. A. S. B. xi. p. 889; Jerd. B. Ind. ii. p. 114, No. 475; Hume, Nests and Eggs, Ind. B. p. 303; Hume and Henderson, Lahore to Yarkand, p. 202; Hume, Str. F. ii. p. 230; iii. p. 133; Bl. B. Burm. p. 100; Oates, Str. F. v. p. 157; Hume and Dav., Str. F. vi. p. 332; Legge, B. Ceylon, p. 433; Hume, Str. F. viii. p. 99; Sharpe, Cat. B. Br. Mus. vii. p. 62; Oates, B. Br. Burm. i. p. 21. *Gracula saularis*, Linn. Syst. Nat. i. p. 165. *Copsychus mindanensis* (non. Gm.), Blyth, J. A. S. B. xvi. p. 139; Hume, Str. F. 1873,**



p. 459; *Salvad. Ucc. Born.* p. 254. *Copsychus ceylonensis*, *Scalater*, *P. Z. S.* 1861, p. 186. *Copsychus musicus*, *Wald. Ibis*, 1872, p. 203; *Tweed. Ibis*, 1877, p. 302; *Hume and Dav., Str. F.* 1878, i. p. 33; *Hume, Str. F.* 1879, p. 99. *Copsychus andamanensis*, *Hume, Str. F.* 1873, p. 231. *Kittacincla melanoleuca*, *Less. Rev. Zool.* 1840, p. 354.—THE INDIAN MAGPIE ROBIN or the INDIAN DHAYAL BIRD.

Head, neck all round, back, wings, chin, throat, breast, central tail feathers, upper abdomen, and edge of the wing black; lower abdomen, vent and under tail coverts, also the shoulder of the wing, some of the outer webs of the secondaries and also the outer tail feathers white; under wing coverts white.

The female is dark grey where the male is black, with a slight gloss on the upper surface; under surface white; wings as in the male; central tail feathers dark brown; outer feathers white; throat grey; under wing coverts and axillaries white. Bill and legs black; irides brown.

*Length*.—8 to 8.5 inches; wing 3.8 to 4.2; tail 3.6; tarsus 1.05; culmen 0.8.

*Hab.*—All over India and Ceylon, eastward to Assam and as far south as Pegu. It is recorded from Central and South India, also from Nepaul, Darjeeling, Kumaon, Pegu and the Andamans, and as a race (*musicus*) Malacca, Penang, Siam and Java.

The geographical distribution of the Dhayal bird, Sharpe says, is of great interest; so gradual is the transition of one supposed species to the other, and so uncertain are the characters for their specific separation, that he has deemed it best to recognize but a single actual species, and in this I agree, especially when hybrids have to be given consideration to. Jerdon says it is generally seen alone or in pairs, usually seeks its prey from a low perch or hops a few steps to pick up insects, which are its chief food.

It breeds, according to Hume, but sparingly throughout the plains of Upper India. The majority resort to the Dhoons and Terai that skirt the Himalayas. They lay from the end of March to the end of July, building their nests in holes in trees, banks or walls, or under the eaves of huts. The nest is composed of coarse grass or flower-stalks intermixed with fine roots and dry tendrils of climbing plants. Eggs, 5—6 in number, of a pale bluish green, thickly spotted and blotched with purplish brown, and showing an imperfect ring of nearly confluent blotches at the larger end.

### Gen. *Lioptila*.—*Blyth*.

Bill somewhat lengthened, slender, slightly curved and bent at the tip, where it is rather broader than high; wings rather short and rounded, the 4th and 5th quills longest; tail moderately long, the outer ones graduating.

**496. *Lioptila annectens*, Blyth, *J. A. S. B.* xvi. p. 450; *Jerd.*, *B. Ind.* ii. p. 248; *Godw.-Aust.* *J. A. S. B.* xxxix., p. 109; *Walden, in Bl. B. Burm.* p. 109; *Hume, Str. F.* 1877, p. 110; *Sharpe, Cat. B. Br. Mus.* vii. p. 80; *Lioptila saturata*, *Wald. Ibis*, 1875, p. 352. *Lioptila Davisoni*, *Hume, Str. F.* 1877, p. 110.—**THE BLACK-HEADED SHRIKE-TIT.****

Head, nape, lores, sides of the head and of the neck and upper back, black; the mantle, head, and nape streaked with white; lower back, rump, scapulars and upper tail coverts deep maroon; lesser, median and greater coverts black, the latter tipped with maroon; quills black; all but the first two primaries edged with grey, and the tertiaries tipped with greyish white; chin, throat, breast, and abdomen white; flanks, vent, and under tail coverts pale ferruginous; tail black, all but the two central pairs of feathers tipped with white. Bill black, the base of the lower mandible yellow; legs pale fleshy brown; irides brown.

*Length*.—6·5 to 7 inches; wing 3·1 to 3·2; tail 3·1; tarsus 0·95; culmen 0·65.

*Hab.*—Eastern Himalayas, extending to the hills of Assam, Burmah, and Tenasserim. According to Jerdon, who obtained it near Darjeeling, it frequents very high trees in small flocks. It hunts about the leaves and smaller branches of the tree tops. Its food is insects.

#### Gen. *Hodgsonius*.—*Bp.*

Bill slender and not much curved, and with a distinct notch; rictal bristles scanty; wings short, moderately rounded, and not as long as the tail, which is graduated; tarsus long, entire; 2—3 small scutes at the base of the toes; feet large, toes slender, claws curved.

**497. *Hodgsonius phoenicuroides* (Hodgs.), *Bp. Consp.* i. p. 300; *Jerd. B. Ind.* i. p. 497, No. 341; *Hume, Ibis*, 1870, p. 529; *Jerd. Ibis*, 1872, p. 132; *Hume and Henderson, Lah. to Yark.*, p. 187; *Hume, Str. F.* 1879, p. 93; *Brooks, t. c.* p. 476. *Callene Hodgsoni*, *Jerd. Ibis*, 1872, p. 132; *Hume, Str. F.* 1875, p. 411; *id.* 1879, p. 83; *Sharpe, Cat. B. Br. Mus.* vii. p. 81. *Bradybates phoenicuroides*, *Hodgs. in Gray's Zool. Misc.* p. 83, (1844).—**HODGSON'S WHITE-BELLIED SHORT-WING.****

Crown of the head and upper surface slaty blue; the ear coverts, sides of face and cheeks darker; a faint light blue supercilium from across the forehead, the base of which latter and lores are blackish; primary coverts blackish, edged externally with slaty blue; the bastard wing the same, and with broad white tips; quills dusky, edged externally with slaty blue; upper tail coverts slaty blue, also the throat, sides, under surface of the body, thighs and flanks; abdomen white, under tail coverts slaty blue, tipped with white; tail, with the two central feathers, blackish brown, edged with slaty blue; the remainder orange rufous for their basal half or two-thirds, blackish at the end, and edged with blue; under wing coverts and axillaries slaty blue, the edge of the wing brighter. Bill dusky, reddish at the gape; legs pale red brown; iris dark brown.

*Length*.—7 inches ; wing 2·9 ; tail 3 ; culmen 0·55 ; tarsus 1·1.

The female is wholly brown throughout ; tail reddish brown ; lores buff, also the ear coverts and cheeks ; under surface of the body ochreous brown.

*Hab.*—The Himalayas from Cashmere to Bhootan ; also Western China. It is recorded by Sharpe from Nepaul and Bhootan, and by Jerdon from Sikkim, where he says it is a rare bird.

### Gen. *Cittocincl*a.---*Sclater*.

Bill more slender than in *Copsychus* ; tail very long, graduated ; wings rounded ; tarsus slender.

**498. *Cittocincl*a *tricolor* (Vieill.), Sharpe, *Ann and Mag. Nat. Hist.* (5) x. p. 49 ; *id. Cat. B. Br. Mus.* vii. p. 85, *Turdus tricolor*, Vieill, *N. Dict. d'Hist. Nat.* pt. xx. p. 291. *Copsychus macrurus*, Wagl. *Syst. Av. Art.* *Copsychus*, *Sp.* *Cercotrichas macrurus*, Boie, *Isis*, 1831, p. 542 ; *Hume, Nests and Eggs, Ind. B.* p. 306 ; *Ball, Str. F.* 1874, p. 412 ; *Hume t. c.* p. 477 ; *Hume and Oates, Str. F.* 1875, p. 13 ; *Ball, t. c.* p. 293 ; *Fairbk. Str. F.* 1876, p. 259 ; *Inglis, Str. F.* 1877, p. 36 ; *Oates, t. c.* p. 157 ; *Hume and Davison, Str. F.* 1878, i. p. 333 ; *Ball, Str. F.* 1878, p. 216 ; *Hume, Str. F.* 1879, pp. 64, 99 ; *Butler, Cat. B. Bom. Pres.* p. 47 ; *Vidal, Str. F.* 1880, p. 66. *Cittocincl*a *macrura*, Gould, *P. Z. S.* 1836, p. 7 ; *Blyth, J. A. S. B.* xvi. p. 139 ; *Jerd. B. Ind.* ii. p. 116, No. 476 ; *Walden, P. Z. S.* 1866, p. 550 ; *Godwin-Aust, J. A. S. B.* xii. p. 142. *Cittocincl*a *macrura*, *Sclater, Ibis*, 1886, p. 109 ; *Beavan, Ibis*, 1867, p. 445 ; *Legge, Ibis*, 1875, p. 396 ; *id. B. Ceylon*, p. 437 ; *Oates, B. Br. Burm.* i. p. 22.—The SHAMA.**

Head, neck, upper breast, back, scapulars, wing coverts and tertiaries glossy black ; rump and upper tail coverts white ; lower breast, abdomen, sides, flanks, and undertail coverts, also the under wing coverts, chestnut ; thighs white ; edge of the wing black ; also the primaries, their coverts, and secondaries ; central pair of tail feathers black, the others black with broad white tips.

The female is olive brown, where the male is black ; the wing coverts and quills are edged with ferruginous, and the lower surface is dull chestnut, whitish on the abdomen ; tail much shorter. Bill black ; legs and feet fleshy white ; irides dark brown.

*Length—Male*—11 to 11·8 inches ; wing 3·45 to 3·65 ; tail 7 to 7·4 ; tarsus 1·05 ; culmen 0·7. *Length—Female*—7 to 7·2 inches ; tail 4·4 to 4·6.

*Hab.*—Southern and Central India ; sub-Himalayan region, westward from the Ganges to Assam, through the Burmese countries to Siam, Cochin China, and Hainan, down the Malayan Peninsula to Java. According to Jerdon, it is common in the dense and lofty jungles of Malabar, especially in the upland districts, also in the Wynad ; more rare in the Eastern Ghauts. It extends to the hill tracts of Assam, Sylhet, Burmah and Malacca, and also to Ceylon. In

British Burmah it is spread abundantly wherever there is thick jungle. It is said to be almost always solitary, to perch low on branches, and to secure prey from off the ground. It is a charming songster, and its song, according to Jerdon, is chiefly heard in the evening, just before and after sunset. He says it is a most gushing melody of great power, surpassed by no Indian bird. It is caught and caged, and in confinement imitates the song of other birds. The Shama breeds in April and May. Mr. Hume gives an account of Mr. Davison's finds of two nests in April and May at Shymootee, and on the road to Meeta Myo in Tenasserim. The nests were found in holes of old stumps of trees. The eggs, four in number, are said to be moderately broad ovals, a good deal compressed towards the small end, and exhibiting a slight pyriform tendency; the shell is fine and compact, and has a slight gloss. The ground colour is a dull greenish stone colour, everywhere densely freckled with a rich raw sienna brown and dull purplish markings. Size 0.87 to 0.89 × 0.6 to 0.62.

**499. *Cittocincla albiventris* (Blyth), Sharpe, Cat. B. Br. Mus.** vii. p. 90. *Kittacincla albiventris*, Blyth, J. A. S. B. xxvii. p. 269; Ball, Str. F. 1873, p. 73; Hume, op. cit. 1874, p. 232; Walden, Ibis, 1873, p. 307. *Cercotrichas albiventris*, Hume, Str. F. 1879, p. 99.—The WHITE-BELLIED SHAMA.

Above, including the wings, throat and upper breast, glossy purplish black; four central tail feathers black, the rest black at the base, and white terminally; under surface of body white; the undertail coverts and flanks pale chestnut; underwing coverts white. Bill black; legs pale fleshy.

*Length*.—8.75 inches; wing 3.6; tail 4.5; tarsus 1.05; culmen 0.6.

*Hab.*—South Andamans

### Group.—HENICURI.

The Birds comprising this group are essentially Timeliinæ, and have habits in common with the Wagtails, which they resemble also in plumage. They live almost entirely on the ground, run along it like the Wagtails by sudden jerking, short movements, and feed like them on insects. They breed on the ground or on ledges of rocks, and always in close proximity to water. They are, however, distinguished from the Wagtails by their rounded wings and smaller tertials, more Cinclinæ bill, and more slender body, as well as by their long and forked tail.

### Gen. *Henicurus*.—Tem.

Bill moderate or long, straight, stout; the culmen strongly keeled, the gonys inclining upwards; nostrils apert; gape with 2—3 stiff bristles; wings rounded, the 1st quill small, the 4th and 5th subequal and longest; tail long and forked; tarsus long and entire; feet moderate.

**500. *Henicurus Leschenaulti* (Vieill.),** *Bp. Consp.* i. p. 251. *Turdus Leschenaulti*, *Elwes, Ibis*, 1872, p. 258; *Stoll., J. A. S. B.* xxxix. p. 304; *Hume and Dav., Str. F.* 1878, i. p. 360; *Hume, Str. F.* 1879 pp. 65, 103; *Oates, B. Br. Burm.* p. 27; *Sharpe, Cat. B. Br. Mus.* vii. p. 313. *Turdus Leschenaulti*, *Vieill., N. Dict. d'Hist. Nat.* xx. p. 269. *Enicurus sinensis*, *Gould, P. Z. S.* 1865, p. 665.—The LARGER BLACK-BACKED FORK-TAIL.

*Upper back uniform black*, also the lesser and median coverts, as well as the primary coverts and primaries, occiput, nape, sides of the crown, lores, eyebrows, ear coverts, cheeks, sides of the neck, throat and breast; greater coverts tipped with white, the innermost white for their terminal half; lower back, rump and upper tail coverts, also the crown of the head, tapering to a point on the vertex, abdomen, sides of the body, flanks, thighs, under tail and under wing coverts white; tail black, with a broad white spot at the tip, the two outermost feathers entirely white; axillaries black. Bill black; irides dark brown; legs and feet pale fleshy white.

*Length*—10 to 11 inches; wing 4·2 to 4·3; tail 5·7; tarsus 1·3; culmen 0·95.

*Hab.*—Java, and according to Oates, extends to Tenasserim. He quotes Davison to the effect that he met with it in various places in Tenasserim from Kollidoo down to Meeta Myo, and that it seems to be confined to the rivulets of the denser evergreen forests below 2,500 feet elevation; also that it has been observed in the Lushai and Daffla hills and in Assam, but Mr. Sharpe says a further comparison of specimens from Tenasserim will probably prove the species to be *H. sinensis*. The specimens by me prove the identity of both species. I cannot admit the distinctness of *Henicurus sinensis*, *Gould, P. Z. S.*, 1865, p. 665; *Sharpe, Cat. B. Br. Mus.* vii. p. 313, characterized as it is only by the white of the crown ending in a rounded form, and the spot on the tip of the tail feathers being oblique. The distribution of *Leschenaulti* must therefore be extended to China and Malacca, and *H. sinensis*, *Gould*, become a synonym of *Leschenaulti*, *Vieill.*

**501. *Henicurus immaculatus*,** *Hodgs., Asiat. Research.* xix. p. 190; *Blyth, J. A. S. B.* xvi. p. 157; *Bp. Consp.* i. p. 251; *Ferd., B. Ind.* ii. p. 213, No. 585; *Hume and Oates, Str. F.* 1875, pp. 9, 141; *Hume, Str. F.* iii. p. 141; *Sharpe, Cat. B. Br. Mus.* vii. p. 314; *Blanf. Ibis*, 1870, p. 466; *Hume, Str. F.* 1879, p. 103; *Oates, B. Br. Burm.* i. p. 25.—The WHITE-BREASTED FORK-TAIL.

Base of the bill black; forehead and a narrow line over and above the eye white; lores, face, sides of the neck, chin, throat, top of head and neck and the back deep black; rump, upper tail coverts and the whole lower plumage white, except the feathers on the sides of the upper breast, which are tipped with black; axillaries and under wing coverts white; primaries black, the later ones white basally on their outer web; the secondaries and tertiaries

black, tipped with white, and their basal third also white; wing coverts black, the larger ones broadly tipped with white; tail feathers black, broadly tipped with white, the base of each feather and the whole of the outer pairs also white. The young are sooty black where the adult is deep black, and there is no white on the forehead and over the eyes. Bill black; irides brown; feet and claws pale yellowish white.

*Length*.—9·8 to 10 inches; wing 3·95 to 4; tail 5·1 to 5·3; tarsus 1; culmen 0·8.

*Hab.*—The Himalayas, ranging through the Indo-Burmese countries to the hill tracts of Eastern Bengal, Sikkim and Nepal. It is found over the whole of the Pegu hills, and is very common in Arracan in all the mountain streams. Blyth records it from Tenasserim. It frequents rocky hill streams, where there is water in pools, along the edges of which it searches for insects, incessantly wagging its tail in the same way as the wagtails. Its short jerky, wavy flights too are not unlike those of the *Motacilline*. Mr. Hume has no account of its nidification, but Oates says it breeds in April, placing its nest, which is cup-shaped and constructed entirely of moss bound together with earth, on a bank of a stream, either under a rock or among tree roots or even on a log of wood which may have been caught in the stream during the past rains. The eggs are usually three in number, and are pale greenish blotched with reddish brown.

**502. *Henicurus schistaceus*, Hodg., *Asiat. Research*, xix. p. 189; *Blyth, J. A. S. B.* xvi. p. 157; *Bp. Consp.* i. p. 251; *Jerd., B. Ind.* ii. p. 214, No. 586; *Hume, Nests and Eggs, Ind. B.* p. 376; *Bl. and Wald., B. Burm.* p. 97; *Godwin-Aust., J. A. S. B.* xlv. p. 80; *Hume and Dav., Str. F.* vi. pp. 361, 517; *Hume, Str. F.* viii. p. 103; *Scully, Str. F.* viii. p. 311; *Bingham, Str. F.* 1880, p. 189; *Oates, B. Br. Burm.* i. p. 28; *Sharpe, Cat. B. Br. Mus.* vii. p. 315.—The SLATEY FORK-TAIL.**

Base of bill black; forehead and a line extending over the eye and behind it white; lores, cheeks, throat and under ear coverts black; ear coverts, head, sides of the neck and back with the lesser wing coverts and flanks slaty; fore-neck, breast, thighs, under tail coverts, rump, upper tail coverts and lower plumage white; tail feathers black, the basal portion and the tip of each feather white; primaries, secondaries, and primary coverts black; the greater coverts broadly tipped with white, also the quills, the basal portions of which from the third to seventh primaries are white, and form a large and conspicuous alar speculum. Bill black; legs and feet pale fleshy white, tinged with blue; irides dark brown.

*Length*.—9·5 to 10·5 inches; wing 3·8; tail 4·8 to 5; tarsus 1·1; culmen 0·8.

*Hab.*—Himalayas extending to Burmah. Occurs in every part of Tenasserim. It has been obtained in the Karin hills, and Blyth records it from Arracan. It is also found in Bhootan, the Khasia and Eastern Bengal hills,

also Sikkim (Darjeeling) and Nepaul. Its habits are the same as the other species of the genus. Hume says it breeds in the valleys of the Surjoo and Ramgunga in Kumaon, and thence eastwards in all the warmer mountain valleys at elevations of from 1,500 to 3,500 feet through the Himalayas and the various chains and hill systems running down from Assam to Burmah. Mr. Gammie's account of a nest, found by him in Sikkim, is quoted by Mr. Hume, and is to the effect, that the nest was close to the ground on a natural ledge in the root of an uprooted tree at the edge of a shady stream. The nest was cup-shaped and composed of moss, lined with a few skeleton leaves and fibres. The eggs were 4 in number, regular ovals, a little compressed at one end, white, marked at the large end with a small cap of densely crowded specks and spots of brownish red and sienna of various shades; size, 0·84 to 0·87 × 0·63 to 0·67.

**503. *Henicurus guttatus*, Gould, P. Z. S. 1865, p. 664; *id.*, B. Asia, part xviii; Hume, Nests and Eggs, Ind. B. p. 376; *id.*, and Oates, Str. F. 1875, p. 342; Bl. and Wald, B. Burm. p. 97; Hume, Str. F. 1878, p. 399; *id.*, Str. F. 1879, p. 103; Scully, t. c. p. 311; Oates, B. Br. Burm. i. p. 26; Sharpe, Cat. B. Br. Mus. vii. 316. *Enicurus maculatus*, pt. (*non Vig.*), Gray, Cat. Mamm., &c., Nepaul, pres. Hodgs. p. 76; Ferd. B. Ind. ii. p. 212.—GOULD'S SPOTTED FORK-TAIL.**

Forehead as far back as the eyes white; chin, throat, breast, upper abdomen, lores, cheeks and ear coverts, black; crown of the head brown, the feathers tipped with white; feathers in the centre of the breast tipped with white; back of the neck thickly mottled, the feathers white with a narrow line of black; back sparsely spotted with white, the spots smaller and oval; on the sides of the neck larger and drop-like; wing coverts black, the greater series tipped with white; primary coverts and quills black; the inner primaries and inner secondaries with white bases; rump and upper tail coverts white; tail feathers black, obliquely tipped with white, the two outer feathers entirely white; abdomen, flanks, thighs and under tail coverts white; under wing coverts black, the lower greater series white. Bill black; legs pale fleshy white; irides dark brown.

*Length*.—9 to 9·5 inches; wing 3·9 to 4; tail 5·1 to 5·2; culmen 0·95; tarsus 1·15.

*Hab*.—Eastern Himalayas, extending throughout Burmah and Tenasserim and Southern China. It has been procured in Arracan and in the Khasia hills, also in Assam and Nepaul to an elevation of about 7,000 feet. In the North-West it is found as far as Simla. It breeds in May and June, making a nest similar to that of *H. schistaceus*. The eggs, too, are not unlike those of that species. In size they vary from 0·9 to 1·03 × 0·68 to 0·75.

**504. *Henicurus maculatus*, Vigors, P. Z. S. 1830-31, p. 9; Gould. Cent. B. Him. Mts. pl. xxvii.; Jerd., B. Ind. ii. p. 212, No. 584; Hume, Nests and Eggs, Ind. B. p. 374. *Enicurus fuliginosus*, Hodgs., Asiat. Res. xix. p. 190. *Henicurus maculatus*, Blyth, Ibis, 1867, p. 29; Beavan, Ibis, 1868, p. 75; Brooks, Ibis, 1869, p. 57; Hume, Str. F. 1879, p. 103; Scully, t. c. p. 110.—The WESTERN SPOTTED FORK-TAIL.**

Above black, with distinct white tips to all the feathers, *producing a barred appearance on the back and scapulars*; median and greater wing coverts black, the latter very broadly tipped with white, forming a broad wing bar; primary coverts and quills black, the primaries with white bases to the shafts and the secondaries white at base and tipped white on the outer web; lower back, rump and upper tail coverts pure white; tail feathers black, bordered with white along the tips and extending further along the inner web; two outer feathers white, the next black with white tips; crown of the head black, the centre browner with black tips to the feathers; forehead entirely white; nape and hind neck black with very large ovate spots of white, those on the sides of the neck white, fringed with black; lores, eyebrow, sides of face, ear coverts, foreneck and chest black; breast, abdomen, sides of the body, flanks, thighs and under tail coverts white; lower chest feathers and sides of breast black fringed with white; under wing coverts black with a white patch formed of the outer greater coverts; axillaries black. Bill black; feet and claws fleshy white; irides dark brown. (Sharpe.)

The young is earthy brown, the feathers with whitish shaft lines.

*Length*.—11 inches; wing 4·15; tail 5·8; culmen 0·9; tarsus 1·1.

*Hab*.—The Western Himalayan mountains, not extending eastwards beyond Nepaul. Recorded from Cashmere and Murree; also from the Dhoon, Almorah, Dhurmsala and Kumaon. It breeds west of Nepaul, south of the first snowy range, along the banks of almost every streamlet. The season extends from April to June. Nest and eggs similar to those of *H. schistaceus*.

#### Gen. *Hydrocichla*.—Sharpe.

General characters of *Henicurus*; tail and wing equal, or the latter slightly exceeding the tail in length; tail forked.

**505. *Hydrocichla ruficapilla* (Tem.), Sharpe, Cat. B. Br. Mus. vii. p. 319; Oates, B. Br. Burm. i. p. 28. *Enicurus ruficapillus*, Tem., Pl. Col. iii. pl. 534; Blyth., J. A. S. B. xvi. p. 155; Bp. Consp. i. p. 251. *Henicurus ruficapillus*, Elwes, Ibis, 1872, p. 257; Stol., J. A. S. B. xxxix. p. 304; Hume and Dav., Str. F. 1878, pp. 361, 518; Hume, Str. F. 1879, p. 65.—The CHESTNUT-BACKED FORK-TAIL.**

Base of forehead, lores, eyelids, ear coverts, cheeks, *chin and throat black; forehead white*, followed by a narrow black line separating the white frontal band from the rufous crown and hind neck; foreneck with a triangular patch



of pure white; sides of neck and breast white, tipped with blackish; rest of under surface white; back, scapulars and lesser wing coverts black; greater coverts black, tipped with white; primaries wholly black; secondaries and tertiaries black, each feather white at base, and also tipped with white; rump and upper tail coverts white; tail black, tipped and basally white, the two outermost white.

In the female the red colour extends over the whole upper back in undiminished purity of colour, and thence over the scapulars and nearly all that portion of the back which is black in the male, leaving only a black band from 0·1 to 0·2 inch wide, dividing the red from the white of the rump; but on all these parts, the red is duller, browner and less pure. *Hume and Dav., Str. F.* 1878, p. 362. Bill black; irides dark brown; legs and feet pale pinky or fleshy white; irides dark brown.

*Length.*—7·2 to 8 inches; wing 3·25 to 3·7; tail 2·9 to 3·5; tarsus 1·05; culmen 0·9.

*Hab.*—The Malay Peninsula, Sumatra, Java and Borneo; also in Tenasserim, in the extreme south about Malewoon.

**506. *Hydrocichla frontalis* (Blyth), Sharpe, Cat. B. Br. Mus.** vii. p. 321; *Oates, B. Br. Burm.* i. p. 29. *Enicurus frontalis*, *Bl., J. A. S. B.* xvi. p. 156. *Henicurus frontalis*, *Elwes, Ibis*, 1872, p. 259, pl. ix.; *Oates, Str. F.* 1877, p. 248; *Hume, Str. F.* 1879, pp. 65, 103; *Sharpe, Ibis*, 1879, p. 255.—The LESSER BLACK-BACKED FORK-TAIL.

Forehead and front of crown white; rest of head, also the neck, breast, back and lesser wing coverts black; rump, upper and under tail coverts and lower plumage white; primaries black, also the secondaries and tertiaries, their bases white, two outermost tail feathers white, the others black, with white bases and tips.

The young have no white on the head, and the general colour is sooty black. Bill black.

*Length.*—8 inches; wing 3·45 to 3·5; tail 3·5; tarsus 1·1; culmen 0·8.

*Hab.*—From South Tenasserim down the Malayan Peninsula. It has only been found in South Tennasserim at Bankasom, where Mr. Davison, and Mr. Oates' collectors secured specimens.

#### Gen. *Microcichla*.—Sharpe.

Characters the same as those of *Hydrocichla*, but the wing much longer than the tail, which is nearly square.

**507. *Microcichla scouleri* (Vigors), Sharpe, Cat. B. Br. Mus.** vii. p. 322. *Enicurus scouleri*, *Vigors, P. Z. S.* 1830-31, p. 174; *Gould, Cent. Him. B.* pl. xxvii. 1832; *Ferd., B. Ind.* ii. p. 214; *Hume, Nests and Eggs, Ind. B.* p. 377. *Enicurus nigrifrons*, *Gray, P. Z. S.* 1859, p. 102; *Ferd., B. Ind.* ii. p. 215; *Godwin-Austen, J. A. S. B.* xxxix, p. 107. *Hen-*

*curus scouleri*, *Beavan, Ibis*, 1868, p. 75; *Stol. J. A. S. B.* xxxvii. p. 473; *Hume, Str. F.* 1879, p. 457; *id.*, *Str. F.* 1879, p. 103; *Scully, t. c.* p. 311; *Biddulph, Ibis*, 1881, p. 67; *Seebohm, Ibis*, 1882, p. 423.—The SHORT-TAILED FORK-TAIL.

Forehead white; hind crown, occiput, nape, lores and feathers above the eye, sides of face and breast, ear coverts, cheeks, sides of neck, foreneck, throat, back, lesser and median wing coverts, bastard wing, primary coverts and quills purplish black; the greater coverts black, tipped with white, forming a wing bar; the primaries conspicuously white-shafted and the secondaries with white bases and edged with white near the ends; innermost secondaries pure white; lower back and rump white, with a black band across the rump; tail black, the feathers with white bases, the outer feathers white and the next two with an oblique black mark at the tip; under surface white; under wing coverts black, the outer lower series white. Bill black; feet and claws fleshy white; irides dark brown.

Young, with the forehead black, throat white.

*Length*.—6 inches; wing 3·1; tail 2·2; culmen 0·55; tarsus 0·95.

*Hab.*—From Samarcand throughout the Himalayas to the hills of Assam and extending into Western China. (Sharpe.) Jerdon says this little bird, aberrant as regards the shortness of its tail, appears to be found throughout the whole extent of the Himalayas, though more common in the eastern portion. It is rare in the N.-W. It has been observed in Cashmere, from where Scully also notices it. In Sikkim, about Darjeeling, it is not uncommon, but does not ascend as high as *H. maculatus*. It affects the larger rapid streams, and as Jerdon adds, may often be seen seated on a rock in the midst of a boiling torrent. Feeds exclusively on rocks that are washed over. Food water insects and larvæ. Jerdon mentions having a nest brought to him found on a ledge of rock near a stream with three eggs very similar to those of *H. maculatus*, but smaller. Mr. Hume has no notice of the eggs.

### Group.—CRATEROPODES.

The Crateropodes are characterized by their strong and stout legs and feet, and a short and rounded wing as well as a compressed bill, which is various in form and length. Including non-Indian species, and all those at present known from various parts, it presents a large assemblage of birds of diverse and varied aspect of plain, sombre and in some varied and generally lax plumage. In it are comprised the laughing thrushes, shrike thrushes, the thick-billed finch thrushes, the jay thrush, the tit thrushes, as well as the scimitar, spiny and other true babbling thrushes. They are social and gregarious in their habits, feed on the ground either on insects, grain, seeds, fruit, &c. Some affect open spots or groves, others delight in climbing through interlaced hedges and thickets, in which also they build. The majority lay eggs of a blue colour. Two-thirds of the recognized genera are

Indian, and the rest are either African or peculiar to Australia, New Guinea, China, and the Malayan Peninsula. The majority of the Indian representatives belong to the great Himalayan mountains ranging east, west and north-west, a few only are residents of the plains, and a smaller number are found in the hill ranges of Bengal extending to Tenasserim, from north to south, alike in the hills and plains.

Gen. **Trochalopteron**.—*Blyth*.

Bill moderate or short, nearly straight, slightly hooked at the tip and distinctly notched; nostrils nearly covered with bristles; nasal opening longitudinal with a large operculum; rectal bristles soft and long; wings short, much rounded, the tertiaries being as long as the primaries; tail moderately long, broad; tarsus and feet strong.

**508. *Trochalopteron affine*** (*Blyth*), *Sharpe, Cat. B. Br. Mus.* vii. p. 357. *Garrulax affinis*, *Blyth, J. A. S. B.* xii. p. 950 (*ex Hodg. MS.*). *Trochalopteron affine*, *Jerd. B. Ind.* ii. p. 45, No. 419; *Gould, B. Asia*, pt. xxviii.; *Hume, Str. F.* 1879, p. 97.—The BLACK-FACED LAUGHING THRUSH.

Crown of the head dark reddish brown; sides of the head, lores, sides of face and ear coverts black, the feathers of the hinder part of the ear coverts tipped with white; cheeks with a broad, fulvous or white band; *on the sides of the neck a dull white patch*, the feathers centred with rufescent; *chin and throat black*; lower throat chestnut brown; foreneck, breast and upper abdomen rufous, *the feathers with ashy margins*; lower abdomen pale fulvous brown; flanks, thighs and undertail coverts olivaceous brown; upper surface of body reddish brown, the feathers of the upper back with ashy olive tips; lower back olive brown; rump olive brown; *upper tail coverts rufous*; wing coverts reddish brown; the greater series rufous on their outer web; bastard wing coverts blue grey; *primary coverts black*, forming a patch on the wing; quills dusky, slaty grey at the ends, rest of outer webs golden olive; tail dull slaty grey, the feathers golden olive on their outer web; under wing coverts and axillaries light reddish brown. Bill black; legs reddish brown; irides brown.

*Length*.—8·8 to 9·75 inches; wing 3·9 to 4·2; tail 4·5 to 5; tarsus 1·5; culmen 0·95.

*Hab.*—The Eastern Himalaya. Recorded from Darjeeling, Sikkim, Nepal and Bhootan. It affects elevations of from 8,000 to 9,000 feet, chiefly heavy bamboo jungle. It does not appear to be common, and like others of the genus, frequents roads in search of insects and grain found in cattle dung.

**509. *Trochalopteron variegatum*** (*Vigors*), *Sharpe, Cat. B. Br. Mus.* vii. p. 359. *Cinclosoma variegatum*, *Vigors, P. Z. S.* 1831, p. 56; *Gould, Cent. Him. B.* pl. 16. *Trochalopteron variegatum*, *Jerd., B. Ind.* ii. p. 45; *id., Ibis*, 1872, p. 305, No. 418; *Cock and Marshall, Str. F.* 1873, p. 354; *Hume, Nests and Eggs, Ind. B.* p. 260; *id., Str. F.* 1878, p. 457;

1879, p. 97. *Trochalopteron simile*, *Hume, Ibis*, 1871, p. 408; *id. and Henderson, Lahore to Yark.*, p. 193, pl. vii.; *Hume, Str. F.* 1875, p. 407; 1879, p. 97; *Biddulph Ibis*, 1881, p. 53.—The VARIEGATED LAUGHING THRUSH.

Forehead fulvous, crown of the head, ear coverts and hind neck ashy brown; a small stripe from the nape through the eyes black, surmounted by a narrow white line behind the eye; cheeks and sides of the throat fulvous, separated from the ear coverts by an indistinct streak of whitish, on the hinder part of which is a black spot; throat black; foreneck, chest, sides of the breast and flanks ashy olive brown, slightly washed with fulvous; the breast, abdomen, thighs, vent and under tail coverts tawny buff, deepening on the latter; upper surface of body olive brown, or brownish grey; wing coverts the same; the greater series orange rufous at the tips and on the outer webs of the external ones, forming a wing patch; primary coverts black; quills dusky, olive golden on the outer webs; the primaries ashy grey on the outer webs, the secondaries the same towards their ends, with a black band across the centre of the feather on the outer web; *inner secondaries tipped with white on their* outer webs; central tail feathers black, with a broad subterminal ashy grey band and tipped narrowly with white; the rest black, externally golden olive, the inner webs ashy brown near the tips; under wing coverts and axillaries tawny buff; the edge of the wing rufous. Bill black; legs reddish; irides brown.

*Length*.—10 to 10·8 inches; wing 4·1; tail 4·7 to 5·1; tarsus 1·45; culmen 0·9

*Hab.*—Himalayas from Cashmere to Nepaul. Recorded from Gilgit, Murree, Simla and Kumaon. Does not appear to extend to Sikkim. Breeds from the central portion of Nepaul to Murree during April, May and June. Nest a compact shallow cup, composed of coarse grass exteriorly, fine roots and fibres on the inside, intermixed both on the outer and inner side with pieces of dead leaves. There is little or no lining in the nest, which is from 5 to 8 inches in diameter, with an egg-cavity of about 3 inches. The nest is usually placed a few feet from the ground (8 to 18 feet), in a densely-foliaged tree or high thicket. Eggs light greenish blue, sparingly spotted, blotched and speckled at the large end with reddish brown. Size 1·07 to 1·15 inches by 0·76 to 0·82.

**510. *Trochalopteron erythrocephalum* (Vigors), Sharpe,** *Cat. B. Br. Mus.* vii, p. 360. *Cinclosoma erythropterum*, *Vigors, P. Z. S.* 1831, p. 171; *Gould, Cent. Him. B.* pl. 17. *Crateropus erythrocephalus* (*Hodgs.*), *Blyth, J. A. S. B.* xi, p. 179. *Garrulax erythrocephalus*, *Blyth, J. A. S. B.* xii, p. 951. *Trochalopteron erythrocephalum*, *Ferd., B. Ind.* ii, p. 43, No. 415; *Hume, Nests and Eggs, Ind. B.* p. 258; *id., Str. F.* 1879, p. 97; *Scully, i. c.* p. 296.—The RED-HEADED LAUGHING THRUSH.

*Head and nape rich chestnut*; hind neck mottled, the feathers black, edged with olive or ashy grey on the sides of the neck; lores black, sides of crown streaked with black, also some of the feathers of the *sinciput*; ear coverts black, with silvery white margins to the feathers, the bases of the feathers rufous; cheeks and throat black; mantle and upper back olive brown; lower back, rump and upper tail coverts ashy olive; wing coverts the same but washed with rufous, the greater series chestnut; bastard wing and primary coverts olive yellow; quills dusky brown, externally golden olive, ashy grey at their ends; tail feathers dull ashy, externally golden olive, brighter at the bases; *under surface of the body fulvous or ochraceous buff*, washed with ashy on the foreneck, breast and flanks, as well as the thighs and under tail coverts; foreneck and breast mottled with crescentic spots and subterminal bars of black; under wing coverts and axillaries fulvous brown. Bill horny black; feet brownish fleshy; irides greyish brown. (Scully.)

*Length*.—9·8 to 10·5 inches; wing 4·15; tail 4·8; tarsus 1·5; culmen 0·9.

The young are lighter in colour, without any crescentic markings on the hind neck; lower back earthy brown; breast unbarred rufescent brown.

*Hab.*—The N.-W. Himalayas to Nepaul. Common from Kumaon westwards as far as the valley of the Beas, frequenting shady ravines, building in hollows and their precipitous sides during May and June. Nest composed of dead leaves bound round into a deep cup with delicate fronds of ferns and coarse and fine grass and moss-roots. Eggs, long ovals, of a delicate pale greenish blue ground colour with a few spots, streaks and streaky blotches of brownish red at the large end. Size 1·15 to 1·22 × 0·8 to 0·86.

**511. *Trochalopteron chrysopteron* (Gould), Sharpe, Cat. B. Br. Mus. vii. p. 362.** *Ianthocincla chrysoptera*, Gould, P. Z. S. 1835, p. 48. *Crateropus chrysopterus*, Blyth, J. A. S. Beng. xi. p. 179. *Garrulax chrysopterus*, Blyth, J. A. S. B.; Blyth, J. A. S. B. xii. p. 95. *Trochalopteron chrysopteron*, Jerd. B. Ind. ii. p. 43; Hume, Nests and Eggs, Ind. B. p. 259; id. Str. F. 1879, p. 97.—The YELLOW-WINGED LAUGHING THRUSH.

Upper surface particolored. Forehead dark rufous with black streaks; lores ashy black, over which is a black line forming an indistinct eye-brow; *sinciput and sides of the crown dark ashy grey*, the former with black centres; *occiput and nape dark chestnut*; hind neck, mantle and sides of the neck reddish brown, each feather with a black subterminal bar; upper back reddish brown; lower back, rump and upper tail covert ashy olive brown; lesser and median wing coverts reddish brown, the greater coverts chestnut; primary coverts and quills blackish, externally golden olive; all the feathers ashy towards the tips; tail golden olive, dusky on the inner webs; ear coverts black, edged with silvery white; cheeks and *throat black*, the former with indistinct ashy margins; lower throat and sides of the upper neck chestnut brown; *breast and under surface reddish brown*, the former mottled with black;

sides of the body olivaceous ; the thighs and under tail coverts darker ; under wing coverts and axillaries reddish brown. Bill dusky brown ; legs horny yellow brown ; irides red.

*Length*.—10·8 to 11 inches ; wing 4 to 5 ; tail 4·5 to 4·7 ; tarsus 1·55 ; culmen 1.

*Hab.*—Eastern Himalayas from Nepal to Bhootan. About Darjeeling, Jerdon says, this is about the most common and abundant species. It is often seen on the road feeding on insects and grain from the dung of cattle, hopping away like the Babbler to the nearest thicket on approach of danger. Breeds only in Nepal, Sikkim and Bhootan. The eggs, according to Jerdon, are greenish blue.

**512. *Trochalopteron ruficapillum* (Blyth), Sharpe, Cat. B. Br. Mus. vii. p. 363. *Garrulax ruficapillus*, Blyth, J. A. S. B. xx. p. 521. *Trochalopteron ruficapillum*, Jerd. B. Ind. iii. p. 44 ; Hume, Str. F. 1878, p. 385 ; 1879, p. 97.**—THE CHESTNUT-NAPED LAUGHING THRUSH.

Above ashy olive, *upper back lunulated with ashy tips and subterminal bars of reddish brown* ; lesser wing coverts olivaceous, washed with reddish ; median and greater coverts deep chestnut brown ; *primary coverts golden olive*, the bastard wing brighter ; quills blackish golden olive on the outer webs ; the secondaries ashy for their terminal third ; tail olive, golden on the outer webs of the feathers ; forehead and crown grey, slightly washed with rufous ; a *bright chestnut patch on the nape* ; lores grey ; supercilium hoary grey. Ear coverts deep vinous chestnut red, also the cheeks, throat and foreneck, the latter paler, and with lunate margins of rufescent ; abdomen rufous ; flanks, thighs and under tail coverts ashy olive ; axillaries buffish ; under wing coverts washed with chestnut with a hoary grey spot on the edge of the wing. Bill dusky brown ; legs horny brown ; irides reddish.

*Length*.—8·6 inches ; wing 3·95 ; tail 4·35 ; tarsus 1·6 ; culmen 0·95.

*Hab.*—Khasia and the Naga Hills. Very little is known of this species, and specimens are scarce. The description is taken from Sharpe's Catalogue, and is of a male bird. The British Museum possesses but a single skin of an adult female presented by Captain R. G. Wardlaw-Ramsay.

**513. *Trochalopteron erythrolæma* (Hume), Sharpe, Cat. B. Br. Mus. vii. p. 363. *Trochalopteron erythrolæma*, Hume, Str. F. 1881, p. 154.**—THE RED-THROATED LAUGHING THRUSH.

Lores and extreme tip of chin dusky ; rest of the entire head and upper neck all round chestnut red, a little brighter on top and a little duller on the throat ; upper breast the same, paling on the upper abdomen and becoming yellower and rustier ; *most of the feathers on these parts with subterminal blackish spots* and fringed paler ; middle of lower abdomen unspotted pale ferruginous ; rest of lower surface, a dull olivaceous earth-brown ; *interscapular region a pale greenish olive grey, all the feathers with large subterminal*

*blackish spots* succeeded by a paler fringe; lower back, rump, upper tail coverts, tertiaries and tail, where not tinged with golden, pale greenish olive grey; tail feathers tinged and margined on their outer webs with a somewhat olivaceous golden; outer webs of primaries and secondaries the same but brighter; secondary and tertiary coverts rich maroon chestnut; the median and lesser coverts paler and mingled with yellow. Legs and feet fleshy brown; bill blackish brown; irides grey. (Hume.)

*Length*.—10·3 inches; bill from gape 1·07; wing 3·7; tail 4·5; tarsus 1·5 (*ex. Sharpe*).

*Hab.*—Eastern Munipur Hills.

**514. *Trochalopteron melanostigma*** (*Blyth*), *Sharpe, Cat. B. Br. Mus.* vii. p. 364; *Oates, B. Br. Burm.* i. p. 39. *Trochalopteron melanostigma*, *Blyth, J. A. S. B.* xxiv. p. 268; *id. B. Burm.* p. 108; *Wardlaw-Ramsay, Ibis*, 1877, p. 464; *Hume and Davison, Str. F.* vi. p. 291; *Hume, Str. F.* viii. p. 96.—THE CHESTNUT-HEADED LAUGHING THRUSH.

Base of the forehead, lores, cheeks and *chin black*; a short supercilium, *ear coverts and sides of the nape silvery grey, the feathers black shafted*; the whole top of the head contracting to a point on the nape bright chestnut; back, rump, lesser wing coverts and the tail coverts olive brown, tinged with ochraceous on the back; greater wing coverts olive brown tipped with ferruginous; *primary coverts black*; wings olive yellow on the outer webs, dark brown on the inner; tail dusky, the outer webs olive yellow; throat chestnut, the remainder of under surface reddish brown or ochraceous red, shading off into paler on the sides of the neck, breast and middle of abdomen; sides of the abdomen, flanks and under tail coverts olive grey; under wing coverts light reddish, except the lower series, which are dusky. Bill black; legs, feet and claws pinkish brown; irides brown.

*Length*.—9 to 10·5 inches; wing 4·2; tail 4·2; tarsus 1·5; culmen 1.

The *female* is a little larger.

*Hab.*—Karen Hills in Burmah, extending into Tennasscrim. (*Sharpe*.)

The Chestnut-headed Laughing Thrush was discovered by Col. Tickell on Mooleyit at an elevation of 7,500 feet. Mr. Davison met with it on the same mountain, and also procured specimens in the pine forests of the Salween River. Capt. W. Ramsay also observed it both in the Karen Hills and in Karennee. Davison says the bird keeps in parties of 6 or 8, feeds chiefly on the ground; and keeps much in the brushwood.

**515. *Trochalopteron rufigulare*** (*Gould*), *Sharpe, Cat. B. Br. Mus.* viii. p. 365. *Ianthocincla rufogularis*, *Gould, P. Z. S.* 1835, p. 48; *Bp. Consp.* i. p. 371. *Cinclosoma rufimenta*, *Hodgs. Asiat. Res.* xix. p. 148. *Garrulax rufogularis*, *Blyth, J. A. S. B.* xii. p. 951. *Trochalopteron rufigulare*, *Gray, Cat. Mamm., &c., Nepaul, Coll. Hodgs.* p. 84; *Ferd. B. Ind.* ii. p. 47; *Hume, Nests and Eggs, Ind. B.* p. 261; *id. Str. F.* 1878, p. 156;

1879, p. 97; *Reid, Cat. B. Prov. Mus. Lucknow*, p. 80.—The RUFOUS-CHINNED LAUGHING-THRUSH.

*Crown of the head black*, the feathers with ashy grey bases; lores white, forming a conspicuous spot; eyebrow pale brown, a broad longitudinal patch behind the gape which extends under and behind the ear coverts, which are rufescent, and tipped with black; cheeks ashy, the feathers with a spot of black at the tip; *chin bright rufous*; lower throat white; above olive brown; the rump and upper tail coverts slightly rufous; all the feathers broadly lunated with black; wing coverts the same; bastard wing ashy grey, lunated with black; primary coverts black; quills dusky; primaries externally ashy grey, with a black band across the middle; secondaries like the back, but tipped with white, and with a broad sub-terminal black bar; tail dark rufescent olivaceous, with a rufous tip and broad bar of black; foreneck and chest ashy, spotted with black; centre of breast and abdomen white; sides of body and flanks pale olive brown, here and there spotted with black; vent and under tail coverts bright rufous; under wing coverts and axillaries pale olive brown. Bill horny yellow; legs fleshy brown; orbital skin blue.

*Length*.—9 to 10 inches; wing 3·6; tail 3·9; tarsus 1·4; culmen 0·95.

*Hab.*—Himalayas from the N.-West eastwards to Bhootan, extending to the Khasia Hills. It is also found in Cashmere. In Darjeeling it is fairly common; also at Mussoorie, where it is known to breed. According to Hutton it is said to breed in May. *Eggs* 3; pure white, a colour unknown in this group of birds. Jerdon says, it is generally seen in flocks, and its call is loud and harsh. The Lucknow Museum has specimens from Almora and Kumaon.

**518. *Trochalopterus cineraceus*, Godwin-Austen, P. Z. S. 1874, p. 46, pl. xi.; Gould, B. Asia, pt. xxvii.; Sharpe, Cat. B. Br. Mus. vii. p. 366.**—The CINEREOUS LAUGHING-THRUSH.

*Adult Male.*—(Thobal Valley, Munipur: type of species.) General colour above uniform ashy olive, more fulvescent on the lower back and rump; the upper tail coverts more decidedly olive; hind neck and mantle slightly marked with black tips to a few of the feathers; wing coverts like the back; bastard wing feathers lavender grey, with broad black centres; primary coverts black, forming a wing patch; quills blackish, the primaries externally lavender grey; the secondaries externally ashy olive, like the back, for two-thirds of their length; the remaining third blackish like the inner web, with a terminal border of white; tail feathers ashy olive, tipped with white, before which is a broad sub-terminal band of black; *crown of head black, forming a cap*; feathers at the base of nostrils also black; lores, feathers round the eye and a broad eyebrow ashy whitish, separated from the ear coverts by a narrow line of black; ear coverts ashy whitish, fringed behind with isabelline feathers having dusky bases; cheeks and sides of the neck isabelline brown, spotted with longitudinal black centres; a black patch below the eye; under



surface of the body isabelline buff, *whiter on the throat, which has a few narrow lines of black*; centre of abdomen paler, thighs and under tail coverts ochraceous buff like the lower flanks, axillaries, and under wing coverts. (Sharpe.)

*Length*.—8·5 inches; wing 3·25; tail 3·9; tarsus 1·3; culmen 0·8. (*Mus. H. H. Godw.-Aust.*)

*Hab.*—Munipur.

**517. *Trochalopteron squamatum* (Gould), Sharpe, Cat. B. Br. Mus. vii. p. 367.** *Ianthocincla squamata*, Gould, P. Z. S. 1835, p. 48. *Trochalopteron squamatum*, Gray, Cat. Mamm., &c., Nepaul, p. 83; *Jerd. B. Ind.* ii. p. 46; *Hume, Nests and Eggs, Ind. B.* p. 260; *id.*, *Str. F.* 1879, p. 97.—The BLUE-WINGED LAUGHING-THRUSH.

Head, neck and body above olive brown, each feather edged with black lunules; rump and *upper tail coverts dark chestnut*; eyebrows black; lores fulvescent; wing coverts olive brown, the feathers edged with black; *greater coverts and secondaries externally ferruginous*; bastard wing blue grey on the outer webs; primary coverts black; *quills black, also blue grey on the outer webs*; *tail black, tipped with ferruginous*, and dull chestnut near the base; chin, cheeks, throat, and under surface of body rufescent brown, fulvous in the centre of the body, all the feathers margined with black; under tail coverts chestnut. Bill black; legs shining fleshy brown; irides red brown.

*Length*.—8·8 to 9 inches; wing 3·9 to 4; tail 4·0; tarsus 1·5.

*Hab.*—Eastern Himalayas; Nepaul to Darjeeling, Sikkim, Bhootan, and the Khasia Hills. Jerdon says it is common in the neighbourhood of Darjeeling. According to Hodgson, it breeds in the central region of Nepaul during May and June in forests. The nest is placed in a fork of a branch on a small tree, and is a large mass of dry leaves and coarse grass made firm and compact. Eggs 4—5, unspotted, verditer blue, cylindrical oval, obtuse at both ends. Size 1·25 × 0·82. Mr. Gammie also took nests in Sikkim.

**518. *Trochalopteron subunicolor* (Blyth), Sharpe, Cat. B. Br. Mus. vii. p. 368.** *Trochalopteron subunicolor*, Blyth, J. A. S. B. xii. p. 952 (*descr nulla*); *Jerd. B. Ind.* ii. p. 44, No. 417; *Hume, Nests and Eggs, Ind. B.* p. 259; *id. Str. F.* 1879, p. 97. *Garrulax subunicolor*, Blyth, J. A. S. B. xiv. p. 599 (*descr prima*); *id. Cat. B. Mus. As. Soc.* p. 96.—The PLAIN-COLOURED LAUGHING-THRUSH.

Above, including the rump and *upper tail coverts, olive brown*; the feathers with a sub-terminal bar of paler olive, and margined with black mottlings; the dark margins less conspicuous on the rump and upper tail coverts; crown of the head slightly darker olive, with black edges to the feathers; lores blackish; ear coverts and cheeks dusky brown with silvery ash shaft lines; *wing coverts olive brown*, lighter on the bastard wing; primary coverts blackish; outer webs olive brown; *quills dusky, their outer webs golden olive*; the primaries ashy

grey, near the tips; the secondaries olive greenish on their outer webs, the innermost tipped with ashy; *central tail feathers golden olive green; lateral feathers blackish washed with golden olive on their outer webs, and narrowly tipped with white*; under surface of body pale ochraceous buff; the feathers mottled with dusky bases and olive margins; throat dark ashy, shaded with olive; foreneck and chest dark olive brown, with a sub-terminal bar of pale ochraceous, and edged with dusky brown; under tail coverts olive brown, as are also the axillaries and under wing coverts. Bill dusky; legs reddish brown; irides reddish brown.

*Length*.—8·5 to 9·5 inches; wing 3·65 to 3·8; tail 3·8 to 3·9; tarsus 1·45; culmen 0·8.

*Hab*.—Eastern Himalayas; Nepaul, Darjeeling, Sikkim. Breeds from April to June in the central region of Nepaul in open forests and groves, building its nest on a low branch, 2—3 feet from the ground. Eggs 3—4, greenish blue.

**519. *Trochalopteron austeni*, *Jerd. Ibis*, 1872, p. 304; *Gould, B. Asia*, pt. xxv. (1873); *Godwin-Austen, J. A. S. B.* xxxix. p. 105; *Hume, Str. F.* 1875, p. 414; 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 369.—AUSTEN'S LAUGHING-THRUSH.**

Above reddish brown, more or less olivaceous on the lower back and rump; wing coverts like the back, the greater series rufous, tipped with yellowish white, with a sub-terminal bar of black; bastard wing feathers externally ashy olive; primary coverts rufous, tipped with dusky blackish; quills dusky, the primaries externally grey; the secondaries externally rufous brown, like the greater wing coverts, and tipped with white; central tail feathers reddish brown, the others blackish, their outer webs reddish brown, *and tipped with white*. Crown of the head, hind neck and sides of the neck more rufous than the back, and with yellowish shaft streaks; lores ashy grey; ear coverts dark chestnut brown, with pale shaft streaks; cheeks, throat, and foreneck reddish brown, mottled with dusky bars, each feather having an obscure sub-terminal paler bar; under parts reddish brown, barred with white; abdomen white, tipped with a bar of dusky; *under tail coverts olive brown, with pale fulvescent tips*; under wing coverts and axillaries olive brown; the lower series dusky. (Sharpe.)

*Length*.—10 inches; wing 3·85; tail 4·5; tarsus 1·5; culmen 0·9. (*Mus. R. G. Wardlaw-Ramsay*.) (Sharpe.)

*Hab*.—Hill ranges of North-Eastern Bengal.

**520. *Trochalopteron phœniceum* (*Gould*), *Sharpe, Cat. B. Br. Mus.* vii. p. 371. *Ianthocincla phœnicea*, *Gould, Icones Avium*. pl. 3. *Garrulax phœniceus*, *Blyth, J. A. S. B.* xii. p. 951. *Trochalopteron phœniceum*, *Gray, Cat. Mamm., &c., Nepaul*, p. 83; *Bp. Conspectus* i. p. 372;**

*Ferd. B. Ind.* ii. p. 48, No. 422; *Hume, Nests and Eggs, Ind. B.* p. 262; *id. Str. F.* 1879, p. 97.—The CRIMSON-WINGED LAUGHING-THRUSH.

Above dark fulvous brown, inclining to rufous brown on the upper tail and wing coverts, the outer webs of the latter tinged with crimson; primary coverts black; quills black, *their outer webs, also the tips of the secondaries and the longer tertiaries crimson*; tail feathers black, *tipped with orange*, increasing in extent on the lateral feathers. Head more olive brown than the back; forehead washed with crimson at the base; lores, cheeks, *ear coverts* and sides of the face crimson, also a narrow supercilium, which is separated from the crown by a streak of black; under surface of the body dark earthy brown, the chin washed with crimson; *under tail coverts crimson*; breast ashy; wing coverts and axillaries like the breast. Bill black; legs livid brown; irides red brown.

*Length*.—8·5 to 9·5 inches; wing 3·5; tail 4' to 4·25; tarsus 1·5.

*Hab*.—Eastern Himalayas: Nepaul, Darjeeling, Sikkim and the Khasia Hills. Abundant in Sikkim at 4,000 to 5,000 feet elevation. It breeds, according to Hume, at 5,000 feet elevation in moist forests amongst dense under-growths. The nest is placed in shrubs at from 6 to 10 feet high, suspended between several upright stems and attached by fibres. The eggs, three in number, are, in shape, elongated ovals, generally very obtuse at both ends; ground color, a beautiful clear pale sea-green or greenish blue with deep maroon spots, dashes, cloudy spots, and lines of hieroglyphics. Size 0·98 to 1·15 inches by 0·7 to 0·79.

**521. *Trochalopteron cachinnans* (Ferd.), Sharpe, Cat. B. Br.** *Mus.* vii. p. 373. *Crateropus cachinnans*, *Ferd. Madr. Journ.* x. p. 255, pl. 7. *Garrulax cachinnans*, *Blyth, J. A. S. B.* xii. p. 952. *Trochalopteron cachinnans*, *Ferd. B. Ind.* ii. p. 48; *Hume, Nests and Eggs, Ind. B.* p. 263; *id. Str. F.* 1879, p. 97; *Reid, Cat. B. Luckn. Mus.* p. 80.—The NEILGHERRY LAUGHING-THRUSH.

Above olive brown, the head and nape ashy; lores and the base of the forehead black; a white eyebrow bordered above and below by a streak of black; eyelids white; *ear coverts rufous*; base of cheeks, chin and upper throat black; *under surface of body bright rufous*, lighter on the abdomen; foreneck, chest and breast deep orange; the flanks and under tail coverts olivaceous; under wing coverts rufous; quills brown, olivaceous externally, axillaries olive brown. Bill black; legs dusky greenish; irides fine red.

*Length*.—8 to 8·8 inches; wing 3·5; tail 3·9; tarsus 1·35; culmen 0·8.

*Hab*.—South India: the Neilgherry Hills, Ootacamund, Kotergherry, Madras and Coonoor are localities whence the specimens have been obtained, and are fairly common. According to Jerdon, it is a noisy-bird, and is abundant



AVIFAUNA OF BRITISH INDIA.



*Trochalopteron jerdoni.*

in all the woods on the summit of the Neilgherries, and its loud laughing call is often heard when the bird itself is unseen. Like others of the genus it lives in small scattered flocks foraging about the thick brushwood. Their chief food appears to be fruit, and especially that of the *Physalis peruviana*; insects too they are very partial to. Breeds from February to June. The nest is, according to Hume, a coarse clumsy structure composed of coarse grass, roots, &c.; the external diameter is from 6 to 9 inches, and the egg-cavity about 3 inches. Eggs a delicate pale blue, speckled, spotted and blotched with brownish red and dusky. Size 0·92 to 1·08 inches by 0·74 to 0·8.

**522. *Trochalopteron jerdoni* (Blyth), Sharpe, Cat. B. Br. Mus. vi. p. 373. *Garrulax jerdoni*, Blyth, J. A. S. B. xx. p. 522. *Trochalopteron jerdoni* (Blyth), Jerd. B. Ind. ii. p. 49, No. 424; Hume, Str. F. 1879, p. 97.—JERDON'S or the BANASORE LAUGHING-THRUSH.**

#### PLATE.

Above olive brown, a little darker on the rump and upper tail coverts; head slaty, gradually shading off into ashy grey on the nape and hind-neck; wing coverts olive brown like the back; primary coverts dusky brown; *quills dark brown, edged on the outer web with olive brown*; tail feathers olive brown with a slight ruddy tinge; lores and behind the eye black; supercilium extending to the ear coverts white, tinged with ashy grey near its termination; eyelids white; forepart of the cheeks ashy grey; *ear coverts hoary whitish*; chin and upper throat black; *lower throat hoary whitish*; *foreneck and breast pale ashy, forming a broad band*; under surface of body orange rufous; the sides of the body, flanks, thighs and under tail coverts, also the axillaries, olive brown; under wing coverts light orange buff. Bill black; legs horny; irides red.

*Length*.—8 to 8·5 inches; wing 3·3; tail 3·75; tarsus 1·3; culmen 0·8.

*Hab*.—Wynaad and Coorg in Southern India: Jerdon says he procured it near the top of the Banasore peak, a high hill at the edge of the Ghats, separating Malabar from the Wynaad, at an elevation of 5,000 to 6,000 feet. Its voice, he adds, is very like its Neilgherry congener (to which it is very closely allied) but more subdued.

Nothing is known of its nidification, but it is no doubt the same as those of *T. cachinnans*.

**523. *Trochalopteron fairbanki* (Blanf.), Sharpe, Cat. B. Br. Mus. vii. p. 374. *Trochalopteron fairbanki*, Blanf., J. A. S. B. xxxviii. pp. 175, 177, pl. 17; Hume, Str. F. 1875, p. 413; Fairb. Str. F. 1877, p. 404; Hume, Str. F. 1879, p. 97.—FAIRBANK'S LAUGHING-THRUSH.**

*Above, including the wing coverts, olive brown*; primary coverts and quills dusky brown, narrowly edged on the outer web with olive brown; the secondaries olive brown. Crown of the head brown; lores dusky brown; eyelids

white; ear coverts and sides of the face dull ashy; cheeks also ashy; a broad *supercilium* white; hind neck ashy grey; sides of the neck bluish grey; foreneck and chest ashy grey, paler in the centre with dusky longitudinal stripes; under surface of the body, including the under wing coverts and axillaries, orange rufous; thighs fulvous brown.

*Length*.—8·7 to 9 inches; wing 3·5; tail 3·7; tarsus 1·35; culmen 0·85.

The young is similar to the adult but duller in colour and have the head of the same colour as the back; the upper tail coverts rufous brown; the ear coverts light rufescent brown; breast entirely ashy with no appearance of dusky streaks. (Sharpe.)

*Hab.*—The Palani Hills.

**524. *Trochalopteron meridionale* (Blanf.), *J. A. S. B.* xlix. p. 142; *Hume, Str. F.* 1880, p. 500; *Sharpe, Cat. B. Br. Mus.* vii. p. 375. *Trochalopteron fairbanki* (nom. Blanf.), *Hume, Str. F.* 1878, p. 36.—The TRAVANCORE LAUGHING-THRUSH.**

*Adult male* (type of species).—Above, including the wing coverts, slaty grey, washed with olive, the lower back and rump being perceptibly more olive; quills dusky brown, externally ashy grey with a tinge of olive; tail feathers dark brown, washed with olive on the outer webs and barred with dusky under certain lights; crown of head slaty brown, darker than the back; lores sooty blackish, relieved by a spot of white just in front of the eye; *no eyebrow*; ear coverts and sides of face light slaty brown, the sides of the neck more ashy; under surface of the body dull white; the foreneck washed with ashy; the throat and breast streaked with ashy brown centres to the feathers; sides of breast and flanks bright chestnut; thighs olive brown; under tail coverts darker chestnut; under wing coverts and axillaries light rufous. (Sharpe.)

*Length*.—8·5 inches; wing 3·5; tail 3·6; tarsus 1·4; culmen 0·9.

The female is like the male but smaller.

*Length*.—7·5 inches; wing 3·25; tail 3·4; tarsus 1·25.

*Hab.*—Travancore (South India). The highlands at an elevation of 4,000 feet.

**525. *Trochalopteron lineatum* (Vigors), *Sharpe, Cat. B. Br. Mus.* vii. p. 377. *Cinclosoma lineatum*, *Vigors, P. Z. S.* 1831, p. 56. *Garrulax lineatus*, *Blyth, J. A. S. B.* xii. p. 951. *Trochalopteron lineatum*, (*Vigors*), *Ferd. B. Ind.* ii. p. 50, No. 425; *Cock. and Marsh., Str. F.* 1873, p. 352; *Hume and Hend., Lahore to Yarkand*, p. 195; *Hume, Nests and Eggs, Ind. B.* p. 264; *Brooks, Str. F.* 1875, p. 238; *Hume, Str. F.* 1879, p. 97; *Biddulph, Ibis*, 1881, p. 34; *Scully, i. c.* p. 440.—The STREAKED LAUGHING-THRUSH.**

Head and back olivaceous ashy, the feathers centred with reddish brown and dusky; middle of back reddish brown, the feathers edged with ashy grey

at the tip, with a white shaft streak; lower back, rump and upper tail coverts dull ashy grey, washed slightly with olive; centre tail feathers ashy, washed with olive and barred with dusky under certain lights; the tips light ashy grey, others fulvous or tawny brown, broadly tipped with ashy grey; outer feathers blackish brown on their outer webs; wing coverts like the back; quills light brown, edged on the outer web with bright tawny brown; the primaries ashy towards their tips; lores and feathers in front of the eye ashy with white streaks; over the line a very narrow line of bright rufous, the superciliary plumes tipped with this colour; ear coverts uniform rufescent; sides of the head and neck streaked with reddish brown; cheeks, throat and breast ashy grey with bright rufous centres to the feathers; rest of under surface dull ashy, slightly washed with olive; the centre of the abdomen and thighs fulvous brown; under wing coverts dull fulvous brown.

*Length*.—7·5 to 8 inches; wing 3·1; tail 3·8; tarsus 1; culmen 0·7.

*Hab*.—Himalayas, from Gilgit to Nepaul. Recorded from both localities, also Beluchistan, Cashmere, Ramgurh, Simla, and Kumaon. Adams found it living in flocks, and very tame, and says it has a low chattering note. Hutton says it is seen in pairs of four or five together; while Hume says (*Nests and Eggs*) that next to the common house-sparrow, the Streaked Laughing-Thrush is perhaps the most familiar bird about our houses at all the hill-stations of the Himalayas westward of Nepaul, and throughout the lower ranges on which these stations are situated, and breeds at elevations of from 5,000 to 8,000 feet. It lays from the end of April to the beginning of September and possibly earlier. Nests have been taken at Mussoorie, also at Almora, Murree and Simla. Mr. Hume's experience is that the nests are always placed in very thick bushes, or in low thick branches of some tree about 4 feet from the ground. As a rule, the nest is concealed. It is nearly circular with a deep cup-like cavity in the centre, and constructed of dry grass and the fine stems of herbaceous plants, intermixed with fibres and dead leaves. Eggs, 3 in number, spotless, delicate pale greenish blue. Size 0·8 to 1·13 × 0·63 to 0·8 inches.

**526. *Trochalopterum imbricatum* (Blyth), Sharpe, Cat. B. Br. Mus. vii. p. 379. *Garrulax imbricatus*, Blyth, J. A. S. B. xii. p. 951. *Trochalopteron setifer* (Hodgs.), Jerd. B. Ind. ii. p. 51. *Trochalopteron imbricatum* (Blyth), Hume, *Nests and Eggs*, Ind. B. p. 266; *id.* *Str. F.* 1879, p. 97.—The BRISTLY LAUGHING-THRUSH.**

Above dark rufescent brown, darker on the head and more rufous on the wings and tail; the crown of the head with dusky shaft streaks, and the back with mesial whitish shaft lines; lower back, rump and upper tail coverts dark ashy olive brown with nearly obsolete tiny tips of fulvous at the ends of the shafts; quills dark brown margined on their outer webs with dark fulvous brown; the inner secondaries deep rufous brown, the primaries ashy grey on the outer webs towards the tip. Tail feathers rufous brown, dusky towards



the ends and tipped with buffy white, the dusky black increasing in extent towards the outer tail feathers and extending along the outer web of the external ones; lores and feathers round the eye dull white; above the eye the feathers are lighter brown with small whitish tips; ear coverts light brown with pale shaft streaks; cheeks and under surface of the body dark rufous brown with pale fulvous shaft lines; under tail coverts dark olivaceous brown; under wing coverts rufous brown. Bill and feet brown.

*Length*.—8·75 to 9 inches; wing 3; tail 4; tarsus 1·15; culmen 0·75.

*Hab.*—Nepaul and Bhootan, and probably also Sikkim.

**527. *Trochalopteron virgatum*, Godwin-Austen, P. Z. S. 1874, p. 43; Gould. B. Asia, part xxvii.; Sharpe, Cat. B. Br. Mus. vii. p. 379.—AUSTEN'S LAUGHING-THRUSH.**

*Adult Male*.—(Naga Hills; H. H. Godwin-Austen; type of species.) Above striated, the back olive with dusky margins to the feathers, all of which have very distinct white shaft streaks; the upper tail coverts a little more reddish olive; scapulars olive, with distinct white shaft lines; lesser wing coverts dark olive, streaked with white, a few of them slightly tinged with rufous at the base; primary coverts very conspicuous ashy olive, with a broad central streak of white; median and greater coverts rich chestnut, tipped with fulvous and with distinct shaft lines of reddish buff; quills sepia brown; primaries externally ashy grey, the secondaries deep chestnut, the innermost edged with olive brown, and having distinct shaft lines of whitish like the back; quills dark olive brown near the base, inclining to dull ashy brown towards their ends, all crossed with dusky cross bars; head and hind-neck dark chestnut with distinct white shaft streaks, the feathers on the neck tipped with dusky margins; lores orange chestnut, extending below the eye; from the base of the bill a broad white eyebrow of lanceolate feathers; eyelids white; ear coverts chestnut with fulvous centres; cheeks and feathers below the eye fulvous white, mottled with dusky or chestnut margins to the feathers; throat deep chestnut, separated from the cheeks by a black moustachial line; lower throat and foreneck chestnut with distinct shaft streaks of yellowish white; under surface of body and thighs yellowish buff with white shaft lines; sides of the body and flanks olive with whitish shaft lines; under tail coverts deep orange buff; axillaries pale orange buff. Legs and feet dull grey; irides dull reddish brown.

*Length*.—9 inches; wing 3·75; tail 4·75; tarsus 1·3; culmen 0·75.

*Hab.*—Naga Hills and Manipur.

### Gen. *Acanthoptila*.—*Blyth*.

Bill moderately long, compressed, gently curved, pointed and feebly notched; rictal bristles scarce; feathers of the head with stiffened shafts; wings rounded; tail long and broad; tarsus moderately long.

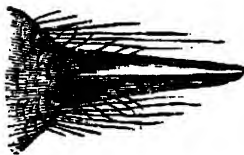


**528. *Acanthoptila nipalensis* (Hodgs.), Blyth, *J. A. S. B.* xxiv. p. 478; *Jerd. B. Ind.* ii. p. 57, No. 43; *Hume, Str. F.* vii. p. 459; *id. Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 380. *Timalia nipalensis*, *Hodgs. As. Res.* xix. p. 182. *Timalia pellotis*, *Hodgs. As. Res.* xix. p. 182. *Malacocercus nipalensis*, *Blyth, J. A. S. B.* xiii. p. 370. *Malacocercus pellotis*, *Blyth, J. A. S. B.* xiii. p. 370; *Hume, Str. F.* vii. p. 461; *id. Str. F.* 1879, p. 97.—The SPINY BABBLER.**

Above olive brown, the feathers of the head and mantle with stiffened black shafts; lores, eyebrow, sides of face and throat white; ear coverts white, with longitudinal brown streaks; upper wing coverts like the back; quills brown, margined on the outer web with olivaceous brown; tail also brown, margined at the base with olivaceous and with indistinct dusky cross bars under certain lights; chin, throat, neck and upper breast rufescent; lower breast, belly and vent albescent, the feathers on the lower surface with dark shaft streaks; flanks, thighs and under tail coverts brown, margined with ochraceous; under wing coverts dark brown, the lower series tinged with rufous. Bill and legs plumbeous or horny brown; irides pale yellow. (Jerd.) Hoary blue. (Hodgs.)

*Length.*—9 to 10 inches; wing 3'3; tail 4'2 to 4'4; tarsus 1'25; culmen 1'05.

*Hab.*—Nepaul and Eastern Kumaon. Rare, according to Jerdon.



*Bill of *Ianthocincla ocellata*.*

Gen. ***Ianthocincla***.—Gould.

Bill moderately long and stout, and exceeding the hind-toe and claw in length; the tip, slightly hooked and notched; nostrils nearly hidden by nareal tufts, rounded, and exposed in front; bristles long, the longest above  $\frac{2}{3}$  the length of the bill; wings moderate, rather shorter than in *Garrulax*; tail long.

**529. *Ianthocincla ocellata*** (*Vigors*), *Bp. Consp.* i. p. 371; *Sharpe, Cat. B. Br. Mus.* vii. p. 382. *Cinclosoma ocellatum*, *Vig. P. Z. S.* 1831, p. 55; *Gould. Cent. Him. B.* pl. 15. *Crateropus ocellatus*, *Blyth, J. A. S. B.* xi. p. 179. *Garrulax ocellatus*, *Blyth, J. A. S. B.* xii. p. 951; *Ferd. B. Ind.* ii. p. 41, No. 414; *Hume, Nests and Eggs, Ind. B.* p. 257.—**THE WHITE-SPOTTED LAUGHING-THRUSH.**

#### PLATE.

Head, nape, cheeks and throat black, the hinder part of the cheeks tawny with narrow black bars; the base of the chin also tawny; lower throat, foreneck and chest ashy fulvous with subterminal black bars; upper surface of body chestnut brown, the feathers of the mantle with a subterminal black bar and a yellowish buff tip; lower back, rump, and upper tail coverts with a large triangular spot of white at the tip of each feather and a subterminal black bar; wing coverts like the back, also spotted with white; bastard wing and primary coverts black, tipped with a spot of white; quills blackish, all tipped with white; the primaries greyish and the secondaries chestnut on their outer webs; innermost secondaries tipped white and with a black subterminal bar; central feathers chestnut brown, tipped with white and with a broad subterminal band of black, which increases in size towards the outer feathers; under surface of the body ochraceous buff, tawny on the flanks, thighs and under tail-coverts; under wing-coverts and axillaries dusky blackish, tipped with fulvous. Bill yellowish, dusky on the ridge and tip; legs dull-yellow; irides yellow-brown.

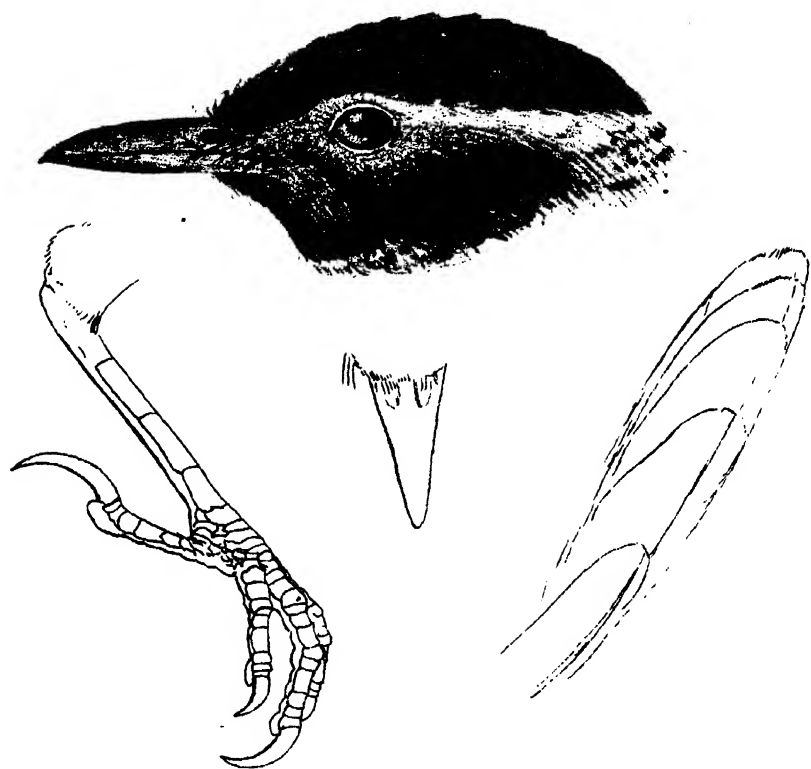
*Length*—12·5 to 13·5 inches; *wing* 5·25 to 5·5; *tail* 6·26; *tarsus* 1·85; *culmen* 1·25.

*Hab.*—Eastern Himalayas, Darjeeling, Sikkim, Nepaul. Abundant about Darjeeling between 8,000 and 10,000 feet elevation. Breeds, according to Hume, in the low warm valleys leading to the Great Runjeet. Eggs long, cylindrical ovals, very obtuse even at the smaller end; delicate pale blue, spotless or with a few chocolate brown specks. *Size*, 1·18 to 1·25 × 0·85 to 0·86.

#### Gen. *Gampsorhynchus*.—*Blyth*.

Bill shorter than in *Ianthocincla*, about the length of the head, wide and deep at the base, curving to the tip, which is much hooked and notched; nostrils with a posterior operculum, rounded and exposed; rictal bristles strong, stiff, and long; wings moderate, much rounded, the 5th, 6th, and 7th quills nearly equal and longest; tail long, graduated.





*Head, leg, bill and wing of Lanthocincla ocellata.*



**530. *Gampsorhynchus rufulus*, Blyth, *J. A. S. B.* xvii. p. 371; *Jerd. B. Ind.* ii. p. 14; *Wald. Ibis*, 1875, p. 450; *Hume, Str. F.* 1879, p. 95; *Oates, B. Br. Burm.* i. p. 40; *Sharpe, Cat. B. Br. Mus.* vii. p. 386.—The WHITE-HEADED SHRIKE-THRUSH.**

Above, including the scapulars, golden brown; head, neck, throat and breast, also the under surface, pure white; the vent, flanks and under tail-coverts tinged with buff; rump and upper tail-coverts fulvous or golden brown; tail the same, and tipped paler; lesser and median wing-coverts white, forming a shoulder patch; bastard wing and primary coverts dusky on their inner webs, and golden brown on the outer; quills the same; axillaries and under wing-coverts yellowish buff, with white bases.

Young birds have the top of the head, nape, ear-coverts, and sides of the head chestnut; under surface of the body yellowish buff. Bill dusky horny above, paler beneath; legs reddish horny; irides orange yellow in some, in others straw yellow.

*Length*.—8·3 to 9 inches; wing 3·85 to 3·9; tail 4·5 to 4·7; culmen 0·85; tarsus 1·15.

*Hab*.—Eastern Himalayas to Arrakan. It has been found in Nepaul and in Sikkim; also the hill tracts of Bengal. In Sikkim Jerdon says it frequents the warmer valleys to 3,000 feet elevation. Those which he had examined had eaten grasshoppers and other insects.

**531. *Gampsorhynchus torquatus*, Hume, *P. A. S. Beng.* 1874, p. 107; *id. Str. F.* ii. p. 446; *Hume, and Dav. Str. F.* vi. p. 258; *Hume, Str. F.* viii. pp. 95, 168; *Bingham, Str. F.* ix. p. 178; *Oates, B. Br. Burm.* i. p. 41; *Sharpe, Cat. B. Br. Mus.* vii. p. 41.—The TENASSERIM SHRIKE-THRUSH.**

Resembles *rufulus*, but is smaller and has a slightly smaller bill; *the white of the head does not extend backwards beyond the crown*, nor that of the throat on to the breast; a deep rufous band bounds the white of the head everywhere, being deepest and most conspicuous across the base of the throat, where it forms a regular and most marked collar.

Bill greyish horny or fleshy white, with, in some cases, a dusky line on the culmen; the legs and feet greyish white; irides pale to bright golden; *tail feathers tipped with white*, not golden buff.

*Length*.—9·4 to 10·2 inches; wing 3·7 to 4·1; tail 4·5 to 5; tarsus 1·05 to 1·2.

*Hab*.—Tenasserim, ranging into the Karen Hills in Burmah.

Gen. **Argya**.—Lesson.

Bill shorter than the tarsus, much compressed, slightly curving from the base, and barely hooked at the tip; commissure slightly curved; nostrils apert; its operculum stout and swollen; a few pale short rictal setæ; wings short, not so much rounded as in *Gampsorhynchus*; 4th, 5th, and 6th quills nearly equal and longest; tail moderately long and broad; tarsus stout and scutellate; claws curved.

**532. *Argya subrufa* (Ferd.), Sharpe, Cat. B. Br. Mus. vii. p. 390.** *Timalia subrufa*, Ferd. Madr. Journ. x. p. 239. *Malacocercus subrufus*, Blyth, J. A. S. B. xiii. p. 369. *Layardia subrufa*, Blyth, J. A. S. B. xxiv. p. 478; Ferdon, B. Ind. ii. p. 66; Fairbank, Str. F. 1876, p. 258; Hume, Str. F. 1879, p. 97.—The RUFOUS BABBLER.

Above, including the wing coverts, olive brown; forehead hoary grey; *lores and feathers round the eye dusky grey*; *ear-coverts olive brown*; cheeks dull rufous; throat and remainder of under surface of the body bright rufous; the lower throat and breast with blackish hair-like shaft streaks; primaries and their coverts brown, paler on the outer web; the secondaries olive brown externally; tail feathers olive brown, barred with numerous dusky lines, more strongly so on the centre feathers. Bill dusky above, yellow beneath; legs dull yellow; irides light yellow.

*Length*.—9 inches; wing 3·5 to 3·7; tail 4·4 to 4·5; culmen 0·9; tarsus 1·35.

*Hab*.—Southern India, along the crests of the Western Ghats from the Southern Mahratta Country to Coorg, the Wynaad and Malabar. According to Jerdon it frequents thick jungle, and feeds on the ground in parties of eight or ten.

**533. *Argya hyperythra*, Sharpe, Cat. B. Br. Mus. vii. p. 390.** *Malacocercus subrufus*, Horsf. and Moore, Cat. B. E. I. Co. Mus. 1. App. p. 420, No. 315 (*nec. Ferd.*).—The RUFOUS-BACKED BABBLER.

Similar to *A. subrufa*, *except that the upper parts are reddish brown* instead of olive brown, *darker and more decided chestnut on the upper tail coverts and tail*; cheeks and under surface of the body bright chestnut; forehead ashy, the feathers with black shaft streaks; *ear-coverts like the head*. Bill and legs as in *subrufa*.

*Length*.—9·8 to 10 inches; wing 3·4 to 3·5; tail 4·3; culmen 0·85; tarsus 1·35.

*Hab*.—Madras.

**534. *Argya Earlii* (Blyth), Sharpe, Cat. B. Br. Mus. vii. p. 392.** *Malacocercus Earlii*, Blyth, J. A. S. B. xiii. p. 369; Ferd. Ill. Ind. Orn. (*text to pl. 19*). *Chatorhæa Earlii*, Blyth, J. A. S. B. xxiv. p. 478; *Blanford Ibis*,

1870, p. 466; *Hume, Str. F.* 1873, p. 180; *id. Nests and Eggs, Ind. B.* p. 275, No. 439; *James, Str. F.* 1873, p. 420; *Hume, Str. F.* 1875, p. 124; *Murray, Vertebrate Zoology of Sind*, p. 134; *Oates, B. Br. Burm.* i. p. 30. *Crateropus Earlii, Blyth and Wald. B. Burm.* p. 118.—The STRIATED REED-BABBLER.

Above pale greyish brown; head and back with dark brown streaks; tail like the back, with faint traces of transverse striæ; chin, throat and breast fulvescent or reddish brown, with faint mesial streaks; abdomen, vent and under tail-coverts fulvescent white; bill dusky yellow; legs dusky brown; irides bright yellow.

*Length.*—9·5 to 10; wing 3·5; tail 5·5; bill at front 0·75.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Central Provinces, Kutch, Kattiawar and Rajpootana, also extending along the valley of Assam, and southwards to Burmah. All the Babblers (bush or reed) associate in small or large parties of from 10 to 20 or more. They affect high grass, hedges, clumps of thick scrub or reed jungle. They feed exclusively on the ground, and when disturbed fly back into the thicket whence they issued, chattering the whole time. They are not very shy, as they build fearlessly in the vicinity of houses as in the open plains, covered with scattered bushes. Reed-margined lakes, canals, and perennial streams are their favourite haunts. The Striated Reed-Babbler lays twice during the year, in March and in September. The nest is a neat and compact structure of grass, roots, leaves, &c., and is generally lined with fine grass stems. The egg-cavity averages 3 to 3·5 inches in diameter. It breeds wherever it is found. The eggs, 4 in number, are of a clear blue colour, varying in size from 0·87 to 1·01 in length, and in breadth from 0·7 to 0·78.

**535. *Argya caudata*** (*Drap.*), *Sharpe, Cat. B. Br. Mus.* vii. p. 393. *Cossyphus caudatus, Drapiez, Dict. Class. d'Hist. Nat.* x. p. 219. *Timalia chatorhæa, Frankl. P. Z. S.* 1831, p. 118. *Malacocercus caudatus, Blyth, Cat. B. Mus. As. Soc.* p. 141. *Chatorhæa caudata, Blyth, J. A. S. B.* xxiv. p. 478; *Ferd. B. Ind.* ii. p. 67, No. 438; *Butler, Str. F.* 1872, p. 472; *Hume, Nests and Eggs, Ind. B.* p. 274; *id. Str. F.* 1873, p. 180; *Adam, t. c.* p. 378; *Ball, Str. F.* 1874, p. 409; *Fairbank, Str. F.* 1876, p. 258; *Murray, Vert. Zool. Sind*, p. 132. *Crateropus caudatus, Blanf. Ibis*, 1874, p. 76; *Blyth and Walden, B. Burm.*, p. 118; *Fairbank Str. F.* 1876, p. 258; *Oates, B. Br. Mus.* p. 32.—The STRIATED BUSH-BABBLER.

Above pale greyish brown; crown of head and hind neck dark brown, with pale edgings; back pale greyish brown, the feathers with dark mesial streaks; rump and upper tail-coverts like the back, the rump unstriped; the upper tail coverts mesially streaked with dark brown; outer webs of primaries concolourous with the back; inner webs dusky; tail feathers pale greyish brown,



with dark shafts and obsolete transverse barring; ear-coverts silky, fulvous brown; under surface pale isabelline or rufescent white; chin and throat white; sides of the breast and flanks with narrow mesial streaks; irides reddish; bill horny brown, yellowish near the base; legs pale or yellowish brown.

*Length*.—9 to 10 inches; wing 3 to 3·5; tail 4·5 to 5; bill 0·88 to 1.

*Hab.*—Sind, Beloochistan, S.-E. Persia; also Punjab, N.-W. Provinces, Bengal, Kutch, Rajputana, Guzerat and Central India, British Burmah and South India. It is spread over the whole of the Indian Peninsula from Cape Comorin to Cashmere and Bengal.

Its habits are quite those of *Earlii*, but it is less shy. It lays from March to September, and has two or more broods a year. As a rule they build in low thorny acacias, or milk bush hedges. Eggs, 4 in number, glossy, delicate, pure, spotless, somewhat pale blue, and smaller than those of *Earlii*.

**536. *Argya eclipses*** (*Hume*), *Sharpe, Cat. B. Br. Mus.* vii. p. 394. *Chatorhæa caudata*, *Hume and Henderson, Lahore to Yarkand*, p. 197, pl. ix. *Chatorhæa eclipses*, *Hume, Str. F.* 1877, p. 337; *id.*, *Str. F.* 1879, p. 97.—The PUNJAB BUSH-BABBLER.

Like *Argya caudata*, but much larger; upper surface darker and more strongly striated; tail more narrowly banded; feathers of breast and sides dark shafted. (*Hume*.)

*Hab.*—Punjab, Trans-Indus, and the lower valleys of the surrounding hills. Habits the same as others of the genus. *C. Huttoni* occurs in Afghanistan and Beloochistan, ranging to Persia.

**537. *Argya gularis*** (*Blyth*), *Sharpe, Cat. B. Br. Mus.* vii. p. 396. *Chatorhæa gularis*, *Blyth, J. A. S. B.* xxiv. p. 478; *Jerd. Ibis*, 1862, p. 19; *Blanf. Ibis*, 1870, p. 460; *Hume, Str. F.* iii. p. 124; *Anderson, Yunnan Exped.*, p. 639, pl. xlviii; *Hume, Str. F.* viii. p. 97. *Crateropus gularis*, *Bl. B. Burm.* p. 117.—The WHITE-THROATED BUSH-BABBLER.

Forehead and a line on each side continued back to the eye grey; each feather with a blackish shaft stripe; top of the head, neck, back, and scapulars ruddy brown, the feathers with a dark brown shaft stripe; rump and upper tail coverts olive brown, the shaft stripes indistinct; wings and wing coverts olive brown, some of the greater series dark shafted; ear coverts and sides of the neck ruddy brown; lores black; chin, throat, cheeks and upper breast white; remainder of lower surface ruddy brown; tail olive brown, with numerous transverse bars of darker brown, the outermost feathers washed and tipped externally with sandy buff; under wing coverts sandy.

*Length*.—10 inches; wing 3·2; tail 5·4; tarsus 1·4; bill from gape 1; culmen 0·80.

*Hab.*—Upper Burmah. Oates says it is confined to the northern portions of the Pegu division in the Irrawady Valley. Common at Thayetmyo. It has been procured both at Prome and near Bhamo. Nothing is known of its nidification.

**538. *Argya malcolmi* (Sykes), Hume, *Str. F.* 1879, p. 97; Sharpe, *Cat. B. Br. Mus.* vii. p. 399. *Timalia malcolmi*, Sykes, *P. Z. S.* 1832, p. 88. *Malacocercus malcolmi*, Blyth, *J. A. S. B.* xiii. p. 369; *Ferd. B. Ind.* ii. p. 64, No. 436; Murray, *Vert. Zool. Sind*, p. 133.—THE LARGE GREY BABBLER.**

Forehead pale bluish, the feathers white shafted; a dusky streak from the nostrils to the eye; ear-coverts brownish grey, the feathers white shafted and lax; crown of head, hind neck and back brownish grey, with dark mesial streaks to the feathers; rump lighter; primaries edged pale grey on the outer web; the inner webs dusky brown; secondaries dusky brown; tertiaries and wing coverts concolorous with the back, or greyer in some specimens; tail, with the central feathers, dusky brown, and with numerous faint cross bars, the next two on each side lighter, and the rest fulvescent white; under surface of body fulvescent white, darker or rufescent on the chin, throat and breast; under wing coverts silky buff. Bill horny brown; legs yellowish; irides light yellow.

*Length.*—11 inches; wing 4·5 to 4·75; bill at front 0·75 to nearly one.

*Hab.*—The Western and Southern Presidencies of India, does not extend beyond Sind. Usually found associated with *Crateropus canorus* at Larkhana and Sehwan. Rare in Lower Sind. Rather numerous in the Concan and Deccan, Kutch, Kattiawar, Jodhpore and North Guzerat.

In its habits the Large Grey Babbler does not differ from its congeners. It breeds nearly throughout India. Its eggs are not unlike those of its congeners, unspotted, delicate pale blue.

### Gen. *Sibia*.—Hodgs.

Bill rather long, slender, almost entire, barely hooked at tip; culmen gently curving to tip; nares lateral, lengthened; wings moderately rounded; tarsi stout, moderately long; tail one and a half or more the length of the wing.

**539. *Sibia picoides*, Hodgs. *Icon. ined. in Br. Mus. Passeres*, pls. 195, 196; *id.* *J. A. S. B.* viii. p. 38; *Ferd. B. Ind.* ii. p. 55; Hume, *Nests and Eggs, Ind. B.* p. 268; Blyth and Wald., *B. Burm.* p. 108; Hume and Dav., *Str. F.* 1878, p. 294; Hume, *Str. F.* 1879, p. 97; Oates, *B. Br. Burm.* p. 43. *Heterophasia cuculopsis*, Blyth, *J. A. S. B.* xi. p. 187.—THE LONG-TAILED SIBIA.**

Above, including the wing coverts, slaty grey, slightly darker on the forehead and the greater series of the wing coverts; primaries black, edged narrowly on the outer web with greyish; secondaries the same; four of them white about the middle and forming a wing patch; tail dusky, the feathers with broad white or greyish white tips; lores blackish; beneath dark ashy, paler on the abdomen; under wing coverts and axillaries slaty grey. Bill and legs slaty black; irides reddish brown.

*Length*.—13·5 to 14 inches; wing 4·75 to 4·9; tail 8·75; tarsus 1·1; culmen 1.

*Hab.*—Eastern Himalayas, extending to Bhootan, Burmah and Tenasserim. It has been found in Nepaul, Bhootan and Sikkim. At Darjeeling it is said to be very common at about 4,000 feet elevation, associating in flocks of six or seven, and flying from tree to tree, feeding both on fruit and insects. At Karenne, Capt. Wardlaw-Ramsay procured it at an elevation of 5,000 feet. It has also been observed in the Dafia Hills in Assam. Mr. Gammie found a nest in Sikkim, in the neighbourhood of Rungbee, near Darjeeling. It contained 5 eggs. The nest, Mr. Hume says, is as perplexing as the eggs, the first being like that of a bulbul, and the eggs not unlike those of a shrike or minivet;—broad ovals, pointed towards one end, with a slight gloss, the ground colour a slightly greyish white with a good many small spots and specks of pale yellowish brown and dingy purple, chiefly confined to a large irregular zone towards the larger end. Size 0·86 to 0·93 × 0·7 to 0·73.

#### Gen. **Malacias**.—*Cap.*

General characters as in *Sibia*, tail a trifle longer than the wing; head crested.

**540. *Malacias capistrata*** (*Vigors*), *Hume, Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 403. *Cinclosoma capistrata*, *Vigors, P. Z. S.* 1831, p. 56. *Sibia nigriceps*, *Hodgs, Icon. ined. in Br. Mus. Passeres*, pls. 197, 198. *Actinodura nigriceps*, *Blyth, J. A. S. B.* xii. p. 98. *Sibia capistrata*, *Gray, Cat. Mamm., &c., Nepaul*; *Ferd. B. Ind.* ii. p. 55, No. 429; *Hume, Nests and Eggs, Ind. B.* p. 267.—The BLACK-HEADED SIBIA.

Head much crested; crest black, falling back on the nape; cheeks, ear coverts, and sides of the face black; base of chin white; neck behind and on the sides rufous; upper back and scapulars ashy brown; lower back, *rump and upper tail-coverts chestnut red*; tail black, broadly tipped with bluish grey; *the centre feathers rufous*, with a broad sub-terminal band of black; lesser and median wing coverts dusky black, washed with ashy brown; the greater series bluish grey, tipped with black *and white at the base, forming a transverse wing bar*; primary coverts blue black; quills blackish, externally bluish grey; the outer edges of the primaries paler; inner secondaries chestnut rufous; their

outer webs margined with bluish grey; under surface of body, including the under tail coverts, rufous; under wing coverts like the breast. Bill black; legs yellowish brown; irides brown.

*Length*.—7·8 to 8·8 inches; wing 3·45 to 4; tail 3·5 to 4·55; tarsus 1·1; culmen 0·95.

*Hab.*—Himalayas from Cashmere to Bhootan; abundant in Sikkim. Recorded localities are Murree, Kumaon, Nepaul, Darjeeling, Bhootan, Mussoorie and Simla. Jerdon says it frequents the highest trees, climbing up the larger branches, and clinging round and below the smaller branches, like a wood-pecker or nut-hatch. Hume says it breeds throughout the Himalayas during May, June, and part of July. The nest is made chiefly of moss, lined with stalks of the maiden-hair fern and fine roots. Eggs, pale bluish green, spotted and blotched with dark brownish red. In size they vary from 0·95 to 1·0 in length, and 0·69 to 0·72 in breadth.

**541. *Malacias melanoleuca* (Tickell),** *Hume, Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 405. *Sibia melanoleuca*, *Tickell, MSS.*; *Blyth, J. A. S. B.* xviii. p. 413; *Hume and Davison, Str. F.* 1878, p. 293; *Gould, B. Asia*, part xxxiii. *Sibia picata*, *Tick., J. A. S. B.* xxviii. p. 451; *Walden, Ibis*, 1866, p. 355; *Oates, B. Br. Burm.* i. p. 43.—TICKELL'S SHORT-TAILED SIBIA.

Forehead, crown, nape, chin, lores, and cheeks, also the sides of the face, jet black; ear coverts, neck and *upper plumage rich brown*; tail brown, broadly tipped with white; wing coverts jet black; quills blackish, externally washed with glossy greenish black: the primaries with a concealed patch of white at the base, on the inner webs. Except a small black chin spot, *the whole under surface, including the under wing coverts and axillaries, white*. Legs, feet, and claws dark horny brown; bill black; irides lake.

*Length*.—8 to 8·5 inches; wing 3·35 to 3·5; tail 3·95 to 4; tarsus 1·15; culmen 0·75.

*Hab.*—Hills of Tenasserim, confined, as far as is at present known, to the higher slopes of the Mooleyit mountains. Oates, quoting Davison, says the note of this bird is a single, long-drawn, clear-sounding whistle. Its food consists of small berries and insects, which latter are captured amongst the foliage on the tree-tops, in which small parties are always moving. They never descend to the ground or even to brushwood.

**542. *Malacias gracilis* (McClell.),** *Hume, Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 406. *Hypsipetes gracilis*, *McClell. P. Z. S.* 1839, p. 159. *Sibia gracilis*, *Blyth, J. A. S. B.* xvi. p. 449; *Jerd. B. Ind.* ii. p. 56; *Godw.-Aust., J. A. S. B.* xxxix. p. 105.—THE ASSAM SIBIA.

*Crown of the head black*, inclining to blackish brown on the nape; *lores* and sides of the face black, as also the fore part of the ear coverts, which shade off into brown on the hinder part, and resemble the sides of the neck, which are slightly washed with slate colour; cheeks, throat, and centre of belly whitish; the lower throat and breast washed with yellowish buff; the sides of the breast and flanks lilac grey, with a vinous tinge; upper back slaty brown; the rump and upper tail coverts ashy grey; lesser and median wing coverts black; the greater series slaty grey, edged with black at the tip, and with broad white bases forming a conspicuous band across the wing; quills black, the primaries margined with horny grey; the innermost secondaries ashy grey, margined with black on both webs; tail black, broadly tipped with ashy grey, the two centre feathers ashy grey with a broad subterminal band of black; thighs, vent and under tail coverts sandy buff; under wing coverts and axillaries white. (Sharpe.)

*Length*.—9 inches; wing 3·65; tail 4·25; tarsus 1·15; culmen 0·95.

*Hab.*—Hills of Assam. Sharpe records specimens from Assam, Shillong and the Khasia Hills.

**543. *Malacias pulchella* (Godw.-Aust.).** *Hume, Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 407. *Sibia pulchellus*, *Godw.-Aust. Ann. and Mag. Nat. Hist.* xiii. p. 160; *id. J. A. S. B.* xliii. pt. 2, p. 164.—**THE FASCIATED SIBIA.**

*A narrow frontal band and lores, extending both over and below the eye to the base of the ear-coverts, black; upper parts ashy grey, tinged with bluish on the head; shoulder of wing blue grey; a band of pale chocolate coming in at the base of the black primary and secondary coverts. Quills greyish black; the primaries edged with pale hoary blue, the secondaries with blue grey, the last three umber brown; the hindmost two edged narrowly on the outer web with black. Tail with the two centre feathers umber brown, terminating in rich black, followed by dark grey; outer feathers the same, the black increasing on each feather to the outermost. Under surface of body ashy blue, with a vinous brown tinge on the lower breast and abdomen. Bill black; legs horny brown.*

*Length*.—9·5 inches; wing 4·1; tail 4·85; tarsus 1·3; bill at front 0·75. (Godwin-Austen, ex. Sharpe.)

*Hab.*—Naga Hills, 8,000 feet.

### **Pomatorhinus.—Horsf.**

Bill long, the culmen longer than the tarsus, compressed, pointed, and much curved throughout; nostrils barely apert; rictal bristles minute and a few only; wing equal to or longer than the tail, rounded; 5th and 6th quills longest; tail long or moderate; tarsi stout, shorter than the culmen.

**544. *Pomatorhinus schisticeps*, Hodgs. *Asiat. Res.* xix. p. 181; Blyth, *J. A. S. B.* xi. p. 175; xiv. p. 598; *Bp. Consp.* i. p. 220; *Jerd. B. Ind.* ii. p. 29; *Beavan, Ibis*, 1867, p. 433; *Hume, Str. F.* 1875, p. 121; *Wardlaw-Ramsay, Ibis*, 1878, p. 133, pl. iii., figs. 1 and 2; *Hume, Str. F.* 1879, p. 96; *Scully t. c.* p. 288; *Oates, B. Br. Burm.* p. 72. *Pomatorhinus leucogaster*, *Gould, P. Z. S.* 1837, p. 137; *Blyth, Cat. B. Br. Mus. As. Soc.* p. 146. *Pomatorhinus nuchalis*, *Tweed, Ann. and Mag. Nat Hist.* (4) xx. p. 535; *Wardlaw-Ramsay, Ibis*, 1878, p. 134; *Hume and Dav., Str. F.* 1878, p. 282; *Hume, Str. F.* 1879, p. 96; *Oates, B. Br. Burm.* p. 71; *Sharpe, Cat. B. Br. Mus.* vii. p. 413. *Pomatorhinus leucogaster*, *Wald. in Bly. B. Burm.* p. 113. *Pomatorhinus olivaceus*, *Blyth, J. A. S. B.* xvi. p. 451; *Hume, Str. F.* 1877, p. 137; *Wardlaw-Ramsay, Ibis*, 1878, p. 133; *Hume and Dav., Str. F.* 1878, p. 283; *Hume, Str. F.* 1879, p. 96; *Sharpe, Cat. B. Br. Mus.* xii. p. 414.—The SLATY-HEADED SCIMITAR-BABBLER.**

Above, including the wing coverts, dark olive brown; crown of head and nape dark slate colour, duller in some; the hind neck a little brighter olive brown than the back, sometimes separated (Tenasserim specimens) from the latter by a rufescent collar; a broad white eyebrow from the base of the bill; lores and feathers below the eye and ear coverts black; neck rich ferruginous or chestnut; cheeks, throat, and breast white; sides of the chest white, with rufous margins to the tips; sides of the breast ferruginous, streaked with white; quills dusky brown, externally dark olive, shaded with grey near the base of the primaries; tail feathers dusky brown, washed with olive brown on the outer webs, and barred across under certain lights; centre tail feathers washed with olive for nearly their whole length; flanks fulvescent olive brown, tinged with rufous; thighs ashy olive; under tail coverts olive brown; axillaries olive brown, slightly tinged with rufous; under wing coverts light rufous. Bill horny or deep yellow; feet plumbeous; irides reddish cream colour.

*Length*.—8 to 10 inches; wing 3·2 to 4; tail 3·9 to 4·5; tarsus 1·2 to 1·4; culmen 1·15 to 2.

*Hab.*—Eastern Himalayas from Nepaul, extending through Sikkim to Bhootan, Assam, the Tipperah Hills, Sylhet, Arrakan, Burmah, Upper Pegu and the lower hills of Central and Southern Tenasserim. Jerdon says it is not rare near Darjeeling at above 500 feet elevation, and goes generally in pairs, the male uttering a loud hooting call. A nest made of moss and some fibres, and with four pure white eggs, was brought to him at Darjeeling. It occurs in Thayetmyo and, according to Oates (under *P. olivaceus* and *P. nuchalis*, which I do not separate from *schisticeps*) from Thoungya Sakan down to Malewoon in Tenasserim, and (Capt. Bingham) throughout the Thoungyween Valley. Capt Wardlaw-Ramsay got it at Tounghoo on the Karin Hills and in Karennee at 3,000 feet elevation. Capt. Bingham found the nest in March (*P. olivaceus*) in the Meplay forest reserve. It was cup-shaped, loosely

made of bamboo leaves, and lined with strips of the same. It contained three white eggs. Davison also found a nest in January, said to be a globular structure. The habits, according to Oates, of all the Scimitar Babblers, are much alike. They live on the ground, or in shrubs very close to the ground, only very occasionally mounting on trees. They conceal themselves so well that they are seldom seen, but when seen they generally perform fantastic motions, spreading out the tail and drooping the wings. They have different calls which resolve themselves into "hoot-hoot-hoot" constantly repeated. They frequent the thickest piece of jungle, where the low undergrowth is entangled and intricate. They nest on the ground on sloping banks, making a nest which in most cases is domed, otherwise only cup-shaped. Eggs invariably white.

**545. *Pomatorhinus pinwilli*, Sharpe, Cat. B. Br. Mus. vii., p. 413.**—PINWILL'S SCIMITAR-BABBLER.

*Adult*.—Similar to *P. schisticeps*, but very small, and having a very distinct ferruginous collar separating the head from the mantle; sides of neck and sides of chest ferruginous, distinctly streaked with white.

*Length*.—8 inches; wing 3·25; tail 3·7; tarsus 1·2; culmen 1·0.

Sharpe says this is a rufous-necked race of *P. schisticeps*, representing that species in the N.-W. Himalayas. It is described from two skins in the British Museum, and is given sub-specific rank.

**546. *Pomatorhinus horsfieldii*, Sykes, P. Z. S. 1832, p. 89; id. J. A. S. B. iii. p. 537; Jerd., Madr. Journ. x. p. 256; Bp. Consp. i. p. 220; Jerd. B. Ind. ii. p. 31, No. 404; Ball. Str. F. 1874, p. 409; Bourd., Str. F. 1876, p. 399; Wardlaw-Ramsay, Ibis, 1878, p. 137; Hume, Str. F. 1879, p. 96; Fairbk., Str. F. 1876, p. 265; Sharpe, Cat. B. Br. Mus. vii. p. 415.** *Pomatorhinus obscurus*, Hume, Str. F. 1873, p. 7; Butler, Str. F. 1875, p. 471; Hume, Str. F. 1879, p. 96; Sharpe, Cat. B. Br. Mus. vii. p. 416.—THE SOUTHERN SCIMITAR-BABBLER.

Above, including the wing coverts, dark olive brown, more ashy in some; head more or less darker than the back, the feathers being tipped with dark brown; sides of the crown with a line of black, followed by a distinct white eyebrow extending from the base of the bill to the sides of the hind neck; lores and ear coverts black; sides of the neck black, with narrow streaks of white; cheeks white; primary coverts paler than the back; quills dark brown, olivaceous on their outer webs; tail the same; under surface of the body white; lower abdomen, flanks, thighs and under tail coverts olive brown; fore-neck and breast white; the sides of these more or less strongly marked with black. Bill yellow; base of maxilla dark brown; legs dusky; irides dark red.

*Length*.—8·2 to 9·5 inches; wing 3·75 to 3·9; tail 4·0; culmen 1·2; tarsus 1·3.

*Hab.*—Southern India, extending into Central and S.-W. India and Guzerat, as far as Mount Abou. Recorded from the Concan, Deccan, Neilgherries, Mynall in Travancore, Matheran near Bombay, and Khandalla. Common in Ootacamund and Coonoor; also in all the forests and hill ranges of the more elevated districts of S. India, as the Wynaad, Coorg, and the Neilgherries; also in the Eastern Ghauts, Goomsoor, &c., and in the heavy jungles of Central India. It breeds in the Neilgherries, more abundantly at Ootacamund, building a large globular nest of grass, moss, and roots, placed on or near to the ground in some bush or clump of fern or grass. Eggs 4—5 in number, nearly perfect ovals, usually much elongated, but sometimes moderately broad and slightly compressed towards one end. In colour they are spotless white, and are also said to be very fragile. Size 0·98 to 1·12 × 0·75 to 0·79.

**547. *Pomatorhinus ochraceiceps*, Walden, *Ann. and Mag. Nat. Hist.* (4) xii. p. 487; *id. in Blyth, B. Burm.* p. 113; *Hume, Str. F.* 1875, p. 282; *Wardlaw-Ramsay, Ibis*, 1877, p. 465, pl. xiii.; *Hume and Dav., Str. F.* 1878, p. 281; *Hume, Str. F.* 1879, p. 96; *Oates, B. Br. Burm.* p. 73.—LLOYD'S SCIMITAR-BABBLER.**

Whole upper plumage bright ochraceous; the inner webs of the quills pale brown; tail paler ochraceous, the terminal halves of the feathers suffused with brown, and obsoletely cross-barred with blackish; base of the forehead, lores, and feathers above and round the eye black; supercilium extending to the nape white; ear coverts chestnut brown; chin, throat, breast and centre of abdomen pure white; sides of the breast and flanks, as well as the thighs, light ochraceous brown; under tail coverts olive brown, axillaries and under wing coverts pale reddish. Bill bright vermilion or coral red; legs, feet, and claws dingy green or greenish brown; irides pale straw yellow.

*Length.*—9·5 inches; wing 3·6; tail 4·4; tarsus 1·3; culmen 1·45.

*Hab.*—Hills of Burmah and Tenasserim. Has been procured in the Karin Hills; also in Karennee. Mr. Davison is said to have observed it on the higher slopes of Mooleyit Mountain in Tenasserim: it has not been observed elsewhere.

**548. *Pomatorhinus Austeni*, *Hume, Str. F.* 1881, p. 152; *Sharpe, Cat. B. Br. Mus.* vii. p. 418.—AUSTEN'S SCIMITAR-BABBLER.**

Entire upper surface, also the flanks, sides, vent and lower tail coverts dull earthy olive brown; the head with a faint ochraceous tinge; lores, cheeks, and ear coverts black; supercilium white; chin, throat, and abdomen also white; sides of the breast dull earthy olive brown, tinged with buffy; legs and feet pale grey brown, tinged greenish; soles yellowish; bill coral red to orange vermilion; irides pale buff or pale orange.

*Length.*—10 to 10·2 inches; wing 3·5 to 3·66; tail 4·5 to 4·75; tarsus 1·3 to 2.

*Hab.*—Munipur Hills.



**549. Pomatorhinus ferruginosus**, *Hodgs., Icon. ined. in Br. Mus. Passeres*, pl. 92; *Blyth, J. A. S. B.* xiv. p. 597; *Jerd. B. Ind.* ii. p. 29, No. 401; *Hume, Str. F.* 1879, p. 96; *id., Nests and Eggs, Ind. B.* p. 249; *Scully, t. c.* p. 288; *Sharpe, Cat. B. Br. Mus.* vii. p. 422.—The FERRUGINOUS SCIMITAR-BABBLER.

Above, including the wing coverts, dark olive brown; crown of the head, nape, lores, and feathers below the eye black; a tuft of chestnut feathers above the lores; supercilium, extending to the nape, white; quills brown, the outer webs margined with reddish brown; tail light brown; the feathers washed with olivaceous on their edges, and obsoletely cross-barred with dusky cheeks, chin, and upper throat white; lower throat, foreneck, and chest bright orange chestnut, becoming duller and paler on the centre of the breast; sides of body, abdomen, and under tail coverts olive brown, slightly tinged with rufous. Bill coral red; legs greenish brown; irides red brown.

*Length*.—7·5 to 8·25 inches; wing 3·4 to 3·5; tail 3·25 to 3·7; tarsus 1·35 culmen 1·2.

*Hab.*—Eastern Himalayas, Nepaul, and Sikkim at from 3,000 to 6,000 feet elevation. Jerdon says he procured it near Darjeeling, but knew nothing peculiar in its habits. According to Hodgson's notes, however, it breeds in Sikkim, making a more or less egg-shaped nest, with the longer diameter horizontal, some 7 × 5 inches, with an opening of 3 inches diameter at one end. Eggs 4—5, elongated ovals, pure white, and measuring 1·08 × 0·7.

**550. Pomatorhinus Phayrii**, *Blyth, J. A. S. B.* xvi. p. 452; *Bp. Consp.* i. p. 220; *Godw.-Aust. J. A. S. B.* xxxix. p. 103; *Wardlaw-Ramsay, Ibis*, 1878, p. 135, pl. iv. fig 2; *Hume and Dav., Str. F.* 1879, p. 96; *Oates, B. Br. Burm.* i. p. 73; *Sharpe, Cat. B. Br. Mus.* vii. p. 422.—PHAYRE'S SCIMITAR-BABBLER.

Above, including the head and wing coverts and outer webs of the quills, olivaceous brown; the secondaries slightly washed with rufous; tail light brown, washed with olive brown on the margins of the feathers; base of the forehead, a line along the sides of the crown, eyelid, and a line from the lores extending to and beyond the ear coverts black; supercilium white; cheeks, chin, and upper throat white; rest of under surface of the body chestnut, or light tawny rufous; the flanks, vent, and under tail coverts olive brown; under wing coverts and axillaries pale olive brown.

*Length*.—9 inches; wing 3·7; tail 4·1; tarsus 1·3; culmen 1·2; from gape 1·3.

*Hab.*—Arrakan, extending to the Khasia Hills. It occurs in Manipur and in the hill tracts of Bengal.

**551. *Pomatorhinus albigularis*, Blyth, *J. A. S. B.* xxiv. p. 274; *Bl. and Wald. B. Burm.* p. 113; *Hume, Str. F.* 1877, p. 136; *Wardlaw-Ramsay, Ibis*, 1878, p. 135, pl. v. fig. 1; *Hume and Dav., Str. F.* 1879, p. 96; *Oates, B. Br. Burm.* i. p. 74; *Sharpe, Cat. B. Br. Mus.* vii. p. 423. *Pomatorhinus mariæ*, *Wald. Ann. and Mag. Nat. Hist.* (4) xv. p. 403; *Hume and Dav., Str. F.* 1878, i. p. 280.—The WHITE-THROATED OR BLYTH'S SCIMITAR-BABBLER.**

Above, including the head and wing coverts, rufescent brown or fulvescent olive brown; markings on the head the same as in *P. Phayrii*; cheeks, chin, and throat white; quills reddish brown externally; tail umber brown, the feathers shaded with reddish brown on their edges and with obsolete dusky cross bars; under surface of the body light ochraceous buff, or pale buffy; sides of the breast, flanks and under tail coverts olivaceous brown; thighs, axillaries, and under wing coverts pale tawny buff. Bill vermilion red; legs and feet pale greenish brown, sometimes a dingy brownish green; irides creamy white.

*Length*.—9·6 to 10 inches; tail 4·2; wing 3·8 to 3·9; tarsus 1·35 to 1·4; bill from gape 1·12; culmen 1·15.

*Hab*.—Tenasserim, where it was first observed on the Mooleyit Mountain at 5,000 to 6,000 feet elevation. It has also been found on the Tounghoo Hills by Captain Wardlaw-Ramsay.

**552. *Pomatorhinus stenorhynchus*, Godwin-Austen, *J. A. S. B.* xlii. p. 43; *Hume, Str. F.* 1877, p. 342; *Wardlaw-Ramsay, Ibis*, 1878, p. 135, pl. v. fig. 2; *Hume, Str. F.* 1879, p. 96; *Sharpe, Cat. B. Br. Mus.* vii. p. 424.—The ASSAM SCIMITAR-BABBLER.**

General colour above light ochraceous olive brown; the head like the back, but rather richer ochraceous; wing coverts like the back; those near the edge of the wing somewhat washed with ashy; quills dusky, externally like the back; tail feathers dark olive brown, obscurely barred with dusky under certain lights, and washed on their margins with the same colour as the back; a broad white eyebrow from the base of the forehead reaching nearly to the occiput, but not fringed above by a line of black on the sides of the crown; lores, feathers below the eye, and ear-coverts black, not extending on to the sides of the neck; cheeks and throat white, fading on the latter into the light fulvous of the under parts; the abdomen whiter; the sides of the body a little deeper than the breast and inclining to tawny; flanks, thighs, and under tail coverts olive brown; under wing coverts and axillaries very light reddish, the edge of the wing ashy. Legs and feet horny grey; bill bright orange red. (Godwin-Austen *ex* Sharpe.)

*Length*.—8·5 inches; wing 3·7; tail 4·1; tarsus 1·2. (Mus. R. G. Wardlaw-Ramsay.) *Sharpe*.

*Hab*.—Upper Assam.

**553. *Pomatorhinus ruficollis*, Hodgs. *As. Res.* xix. p. 182; *Blyth, J. A. S. B.* xii. p. 175; *Jerd. B. Ind.* ii. p. 29, No. 400; *Wardlaw-Ramsay, Ibis*, 1878, p. 138; *Hume, Str. F.* 1879, p. 96; *Scully t. c.* p. 287. —The RUFOUS-NECKED SCIMITAR-BABBLER.**

Above fulvous brown with an olivaceous tinge on the back. Head dusky brown; supercilium white; lores, sides of the face and ear coverts black; cheeks and throat white, the feathers on the former tipped with yellowish brown; neck chestnut rufous; *breast whitish, the feathers streaked with yellowish brown* and with a distinct white shaft-streak; sides of the body, thighs, under wing and under tail coverts fulvous brown; wing coverts and quills like the back, the primaries washed with olive on their outer webs; tail brown, the feathers with obsolete, wavy dusky bars, their outer webs washed with olive. Bill horny yellow, paler at tip; base of maxilla and basal three-fourths of culmen brownish black; feet greenish plumbeous; irides pale red to crimson.

*Length.*—8·5 inches; wing 3·15 to 3·2; tail 3·7; culmen 0·95; tarsus 1·2.

The young is more rufescent, especially on the head, forehead, throat and breast; cheeks and chin white.

*Hab.*—Eastern Himalayas, extending to Bhootan and the Khasia Hills, also the hills of Southern China. Sharpe records specimens from Nepal, Darjeeling and Sikkim.

**554. *Pomatorhinus hypoleucus*, Blyth, *J. A. S. B.* xiii, p. 371; *Hume, Str. F.* 1877, p. 31; *id.* 1879, p. 96; 1880, p. 253; *Jerd. B. Ind.* ii. p. 32; *Oates, B. Br. Burm.*, i. p. 75; *Sharpe, Cat. B. Br. Mus.* vii. p. 428. *Pomatorhinus Inglisi*, *Hume, Str. F.* 1877, p. 31; 1879, p. 96; *Sharpe, Cat. B. Br. Mus.* vii. p. 429; *sub-sp. a.*—The ARRAKAN SCIMITAR-BABBLER.**

Upper surface reddish brown, duller on the head; lores dull ashy; sides of the face and ear coverts brown; *no eyebrow; generally no streak of dull rufous from above the eye, passing over the ear coverts to the sides of the neck*; cheeks, throat, chin, breast and centre of abdomen white; *sides of the breast ashy, each feather with a triangular patch of white*; sides of the abdomen rufous ashy; under tail coverts ferruginous; axillaries and under wing coverts ashy; culmen and base of upper mandible horny blackish.

*Length.*—10·5 to 12 inches; wing 4·3; tail 4·3; tarsus 1·7; culmen 1·75.

*Hab.*—The Khasia Hills, Arrakan and Cachar, extending to Assam and Sikkim to the Garo Hills.

**555. Pomatorhinus Tickelli** (*Blyth*), *Sharpe, Cat. B. Br. Mus.* vii. p. 429; *Blyth MSS.*; *Tickell, Ibis*, 1863, p. 113; *Wardlaw-Ramsay, Ibis*, 1878, p. 142; *Oates, B. Br. Burm.* p. 76. *Orthorhinus Tickelli*, *Hume, Str. F.* 1877, p. 32; *id. and Dav., Str. F.* 1878, p. 185; *Hume, Str. F.* 1879, p. 96; *Bingham, Str. F.* 1880, p. 181; *Hume, l. c.* p. 253.—TICKELL'S SCIMITAR-BABBLER.

Upper surface of the body including the lesser wing coverts olive brown with a ferruginous tinge; the greater wing coverts rufous on their outer webs; primary coverts and quills blackish, also rufous on their outer webs; inner secondaries reddish brown; rump paler than the back; upper tail coverts reddish brown; tail feathers deep chestnut brown; head and nape olive brown; lores, cheeks and ear coverts rufous grey; *a patch behind and below the ear coverts deep ferruginous*; superciliary streak from over the eye passing over the ear coverts, and joining the patch on the neck ferruginous, each feather of the supercilium mesially streaked with creamy white; cheeks, throat and under surface of the body white; the flanks and thighs olive brown, narrowly streaked with buff; sides of the breast ashy grey, the feathers streaked with white and margined with black; under tail coverts chestnut. Bill horny, darker at the base of the upper mandible; iris dark red-brown; legs and feet fleshy white. (*Bingham, MSS.*)

*Length.*—12 inches; wing 4·4; tail 4·5; tarsus 1·7; culmen 1·85; from gape 1·98.

*Hab.*—Tenasserim, Houndraw Valley. According to Davison, quoted by Oates, this Babbler is found in thick forest, usually in pairs, but occasionally in small parties. It keeps much more to the ground than any *Pomatorhinus*, hopping about in a very ungainly manner. Their food consists of insects of all kinds.

**556. Pomatorhinus erythrogenys**, *Vigors, P. Z. S.* 1831, p. 173; *Gould, Cent. Him. Birds*, pl. 55; *Blyth, J. A. S. B.* xi. p. 175; *Ferd. B. Ind.* ii. p. 31, No. 405; *Hume, Nests and Eggs, Ind. B.* p. 251; *Wald. in Bl. B. Burm.* p. 113; *Wardlaw-Ramsay, Ibis*, 1878, p. 142; *Hume, Str. F.* 1879, p. 96; *Scully, l. c.* p. 288; *Oates, B. Br. Burmah i.* p. 75.—THE RUSTY-CHEEKED SCIMITAR-BABBLER.

Whole upper plumage, including the top of the head, olive brown; the tail obsoletely barred with dusky in certain lights; forehead, cheeks, *ear coverts*, sides of the neck and breast, sides of the body, the thighs, flanks, vent and under tail coverts chestnut; moustacial streak dusky blackish; chin and throat whitish ashy, or smoky brown; *centre of breast and abdomen white*, under wing coverts orange rufous. Bill dusky grey or horny; base of the maxilla blackish and of the mandible greenish; irides yellowish white or hoary; feet brownish fleshy.

*Length*.—8·8 to 10 inches; wing 3·55 to 6; tail 3·8 to 4·1; tarsus 1·35; culmen 1·3.

*Hab.*—Himalayas, also the hills of Eastern Bengal and Tenasserim. Common from Simla down to Bhootan. In Tenasserim it has been found in the pine forests of Salween; also at Thatone. Darjeeling, Kumaon, Murree and Khotegurh are other quoted localities. It is always found in pairs, turning up dead leaves on copsewood covered banks, uttering a loud whistle, answering and calling each other. It breeds on the Himalayas from April to June, making a nest on the ground in some thick clump of dry fern or coarse grass, amongst dead leaves; sometimes the nest is placed in a bush—2 to 3 feet from the ground. The nest is domed in shape, but loosely constructed of coarse grass, &c. Eggs white; in shape long and at times narrow ovals; in length they vary from 1·05 to 1·13 × 0·73 to 0·83, usually 3 in number.

**557. *Pomatorhinus Macclellandi*, *Jerd. B. Ind.* ii. p. 32 (*descr. nulla*); *Godw.-Aust., J. A. S. B.* xxxix. p. 104; *Jerd. Ibis*, 1872, p. 302; *Wardlaw-Ramsay, Ibis*, 1878, p. 143; *Hume, Str. F.* 1875, p. 412; 1879, p. 96; *Sharpe, Cat. B. Br. Mus.* vii. p. 431. *Pomatorhinus gravivox*, *David, Ann. Sci. Nat.* xviii. art. v. p. 2.—MACCLELLAND'S SCIMITAR-BABBLER.**

Upper plumage olive brown; quills tinged with fulvous on their outer web; tail light brown, washed with olive brown near the base; base of forehead rufous; lores white; ear coverts and cheeks rufous, the latter with white bases to the feathers; moustachial streak dusky blackish; throat and under surface of the body white, the sides olive brown; thighs and under tail coverts rufous; *foreneck and chest white with triangular dusky spots.*

*Length*.—8 inches; wing 3; tail 3; tarsus 1·35; culmen 1·15.

*Hab.*—Assam (Debrughur), Khasia Hills.

#### Gen. **Xiphoramphus**.—*Blyth*.

General characters as in *Pomatorhinus*, but the bill very slender and much more curved and compressed; tail slightly longer than the wing; tarsus shorter than the bill.

**558. *Xiphoramphus superciliaris*, *Blyth, J. A. S. B.* xii. p. 947; *Jerd. Ill. Ind. Orn.* pl. 49; *id. B. Ind.* ii. p. 33, No. 406; *Hume, Str. F.* 1879, p. 96; *Sharpe, Cat. B. Br. Mus.* vii. p. 433. *Xiphorynchus superciliaris*, *Blyth, J. A. S. B.* ii. p. 175. *Pomatorhinus superciliaris*, *Gray, Gen. B.* i. p. 229.—THE SLENDER-BILLED SCIMITAR-BABBLER.**

Head and sides of the face dark slaty grey, darker on the forehead and sides of the face; over the eye a superciliary streak composed of white-tipped feathers; wing coverts ashy brown, the feathers edged narrowly with rufous

brown; primaries externally ashy brown; the secondaries rufous brown on the outer web; tail dark brown, slightly washed with rufous brown near the base; throat dark ashy grey streaked with white; under surface dull rusty rufous; under tail coverts dark ochraceous brown; thighs dark slaty grey. Bill dusky black, plumbeous at the tip; legs leaden brown; irides red brown.

*Length*.—7·5 to 8·5 inches; wing 2·9 to 3; tail 3·3 to 4·5; tarsus 1·1 to 1·25; culmen 2·1.

*Hab*.—Sikkim, at elevations of 3,000 to 6,000 feet, where, according to Hodgson's notes, it breeds during the months of May and June. Nest a large globular structure composed of dry bamboo leaves and green grass intermingled and lined with fine roots and fibres placed in tufts of high grass or in thick bushes. Eggs 4 in number, pure white.

### Gen. **Garrulax**.—*Less*.

Bill nearly straight, rather long, moderately stout, the culmen shorter than the tarsus, gently curved towards the tip, which is slightly hooked and notched; nostrils rounded, pierced in the anterior part of the nasal depression, more or less impended by nareal tufts; rictal bristles long and strong, not reaching much beyond the nostrils; the feet outstretched does not reach the end of the tail; wings moderate, 5th and 6th quills generally the longest; tail long, much rounded; legs and feet strong; claws long.

Birds of moderately large size, the largest averaging 12 inches; plumage lax and disunited; coloration plain; head crested or not.

**559. *Garrulax leucolophus*** (*Hardw.*), *Blyth*, *J. A. S. B.* xii. p. 948; xiv. p. 598; *Ferd. B. Ind.* ii. p. 35, No. 407; *Hume, Nests and Eggs, Ind. B.* p. 253; *Blyth, B. Burm.* p. 107; *Brooks, Str. F.* 1875, p. 238; *Hume, Str. F.* 1879, p. 96; *Scully, t. c.* p. 289; *Oates, B. Br. Burm.* p. 34; *Sharpe, Cat. B. Br. Mus.* vii. p. 435. *Corvus leucolophus*, *Hard. Trans. Linn. Soc.* xi. p. 208, pl. 15. *Crateropus leucolophus*, *Blyth, J. A. S. B.* xi. p. 179. *Garrulax Belangeri*, *Blanford, Ibis*, 1870, p. 467 (*nec. Less*).—The WHITE-CRESTED LAUGHING-THRUSH.

Head and crest, chin, cheeks, throat, breast and foreneck white; the occiput greyish and the breast shaded with chestnut; a narrow black streak from the nostrils through the eye to the ear coverts; a band of rufous round the hind neck; chest chestnut; back, wing coverts, abdomen, flanks, sides of the breast, thighs and under tail coverts rufescent olive brown; under wing coverts and axillaries dark olive brown; quills dark brown, the outer webs olive brown; tail blackish brown, washed with olive brown near the base.

The young is more rufous brown on the back and lower surface. Bill black; legs plumbeous; irides red brown or brownish yellow.

*Length*.—11 to 12 inches; wing 5 to 5·13; tail 5 to 5·3; culmen 1·2; tarsus 1·8.

*Hab*.—The N.-W. Himalayas to Bhootan and through the Khasia hills to Arracan and Pegu. Kumaon Nepaul, Sikkim, Arrakan, Pegu, Bhootan and the Khasia hills, as also the hills of Eastern Bengal, are recorded localities. Occurs in large flocks of twenty or more, and are well known birds to every forester on account of their peculiar discordant laughter-like or chattering notes which are uttered now and again, and especially at a given signal of danger, when it is said to be a deafening, demoniacal chorus, which is kept up till there is no further cause for anxiety. They are also said to execute wonderful capers at times, erecting their crests, drooping their wings and spreading out their tails. They feed on the ground, turning over dead leaves in search of insects; berries also form their food. They breed at various elevations in Sikkim and Nepaul during April, May and June, laying from 4 to 6 eggs, which are white in colour, regular broad ovals, varying in size from 1·05 to 1·13 × 0·89 to 0·95. The nests are built in small trees and are made of dry bamboo leaves and creepers, together with moss, roots and grass, &c., intermixed.

**560. Garrulax Belangeri**, *Less, Traite d' Orn.* p. 648; *id. in Belang. Voy. Inde*, p. 258, pl. iv.; *Blyth, J. A. S. B.* xii. p. 948; *Bp. Consp.* i. p. 370; *Blyth, Wald. B. Burm.* p. 107; *Hume, Str. F.* 1875, p. 122; *Oates, Str. F.* 1877, p. 156; *Hume and Davison, Str. F.* 1878, p. 286; *Hume, Str. F.* 1879, p. 96; 1880, p. 292; *Oates, B. Brit. Burm.* p. 33; *Sharpe, Cat. B. Br. Mus.* vii. p. 436.—THE BURMESE WHITE-CRESTED LAUGHING-THRUSH.

Base of upper mandible, lores, a ring round the eye, and the ear coverts black; head and crest pearly grey, tipped with white; nape, hind neck, and sides of the neck pearly grey, the feathers tipped with chestnut; forehead and feathers over the eye white, also the cheeks, throat, breast and upper abdomen, but shaded with pearly grey; on the sides of the breast, the feathers are tipped with chestnut; flanks bright chestnut; upper wing coverts, back, scapulars, rump, and upper tail coverts, the sides of the body, vent, under tail coverts, and thighs rich ferruginous or deep chestnut; quills dark sepia brown, their outer webs rufescent olive brown; tail feathers blackish brown, washed with olive near the base; under wing coverts and axillaries rufous brown. Bill black; gape yellow; legs and feet dark plumbeous; iris deep wood brown or pinkish hazel; eyelids purplish grey.

*Length*.—10·5 to 11·5 inches; wing 5; tail 4·6; tarsus 1·65; culmen 1·15.

*Hab*.—Pegu and Tenasserim, where it is found abundantly in all the wooded parts. Tounghoo is also given as a locality.

The young are like the adult, with the plumage more fluffy, and sides of the body and flanks brick red.

**561. *Garrulax Diardi* (Less.), Gray, *Handl.*, B. i. p. 281, No. 4151; Oates *B. Br. Burm.* i. p. 34; Sharpe, *Cat. B. Br. Mus.* vii. p. 437. *Turdus Diardi*, Less. *Traité d' Orn.* p. 408. *Garrulax leucogaster*, Wald. *P. Z. S.* 1866, p. 549; *id.* *Ibis*, 1867, p. 387; Hume, *Str. F.* 1880, p. 292. The SIAMESE WHITE-CRESTED LAUGHING-THRUSH.**

Base of upper mandible, lores, feathers round the eye, and ear coverts black; forehead and crown white, the feathers of the crest tipped with grey; nape and hind neck greyish; cheeks, throat, and under parts white, the sides of the breast washed with ashy; flanks rufous brown; thighs olivaceous brown; back, scapulars, rump, and lesser wing coverts bright chestnut; the outer webs of the median and greater coverts rufous brown; outer webs of quills the same; the inner secondaries entirely rufous brown; upper tail coverts olivaceous brown; tail feathers blackish brown, washed with olive near the base; under wing coverts and axillaries dull reddish brown; bill as in *G. Belangeri*.

*Length*.—11·2 to 11·5 inches; wing 5·2; tail 4·6; tarsus 1·9; culmen 1·2.

*Hab*.—Siam and the hills separating Tenasserim and Siam, extending into Cochin-China (Sharpe). Oates says it appears to have occurred on the hills between Tavoy and Siam.

**562. *Garrulax albigularis* (Gould), Lesson, *Rev. Zool.* 1840, p. 163; Blyth, *J. A. S. B.* xii. p. 949; *Bp. Consp.* i. p. 225; *Ferd. B. Ind.* ii. p. 39, No. 411; *id.* *Ibis*, 1872, p. 303; *Cock. and Marsh, Str. F.* 1873, p. 354; Hume, *Nests and Eggs, Ind. B.* p. 255; Hume, *Str. F.* 1879, p. 96; Scully, *t. c.* p. 289. *Ianthocinclia albigularis*, Gould, *P. Z. S.* 1835, p. 187. *Cinclosoma albigula*, *Hodgs. As. Res.* xix. p. 146.—The WHITE-THROATED LAUGHING-THRUSH.**

Base of upper mandible, lores, and feathers below the eye black, followed by a rufous band extending above the lores to the eye; crown dull olive brown; ear coverts olive brown; a black spot at the base of the chin; cheeks and throat white; foreneck and chest olive brown; under surface of the body, including the under wing coverts and axillaries, orange rufous, paler on the two latter; back, scapulars, lesser, median and primary coverts, outer webs of primaries and entire inner secondaries olive brown, rather greyish at base of outer webs of primaries; rump with an indistinct bar of orange buff across; tail ashy olive, all except the four centre ones broadly tipped with white; bill horny black, brownish at tip; iris pale bluish white.

*Length*.—10·5 to 12 inches; wing 5·2 to 5·4; tail 5·8; tarsus 1·8; culmen 1·25.



*Hab.*—The Himalayas from Cashmere to Bhootan and Simla, at elevations of from 6,000 feet to 9,000 feet. Cashmere, Murree, Ramgurbh, Kumaon, Nepaul, Bhootan, Mussoorie and Darjeeling are recorded localities; but Jerdon says the White-throated Laughing-Thrush is not very common in these localities. It prefers higher elevations. It lives in large flocks, feeds mostly on the ground, and like its congeners is every now and then screaming and chattering. Hume says it breeds throughout the lower southern range of the Himalayas from Assam to Afghanistan, from April to the end of June. The nest is a structure composed of coarse grass, flags, creepers, dead leaves, moss and moss roots, lined with finer roots. It is placed on a small bush, 3 to 10 feet from the ground. The eggs are 2—4 in number, of a deep and beautiful shining green colour, or greenish blue. In size they vary from 1·16 to 1·25 inches  $\times$  0·8 to 0·86. They are long ovals and pointed at one end.

**563. *Garrulax pectoralis* (Gould), Blyth, *J. A. S. B.* xii. p. 949; *Bp. Consp.* i. p. 371; *Jerd.*, *B. Ind.* ii. p. 39, No. 412; *Hume, Nests and Eggs, Ind. B.* p. 256; *id. Str. F.* 1875, p. 122; *Blyth and Wald. B. Burm.* p. 108; *Oates, Str. F.* 1877, p. 156; *Hume and Dav., Str. F.* 1878, p. 29; *Hume, Str. F.* 1879, pp. 96, 169; *Bingham, Str. F.* 1880, p. 181; *Oates, Str. F.* 1881, p. 208; *id. B. Br. Burm.* i. p. 36; *Sharpe, Cat. B. Br. Mus.* vii. p. 441. *Ianthocincla pectoralis*, *Gould, P. Z. S.* 1835, p. 186. *Garrulax melanotis*, *Blyth, J. A. S. B.* xii. p. 949. *Garrulax uropygialis*, *Cab. in Ersch and Grub. Allg. Encyc.* Band. 55, p. 62.—The BLACK-GORGETTED LAUGHING-THRUSH.**

Crown of the head ashy olivaceous brown, *separated from the back by a broad orange rufous band*; lores and a *distinct eyebrow ashy white, edged above and below with a narrow black line, the latter extending from the base of the bill, unites into a broad band, and descends on the sides of the neck to form a gorget on the top of the breast*; moustache and throat white; ear coverts various, white brown or black; rest of under surface creamy white, washed with fulvous on the under tail coverts; back and rump rufescent olivaceous brown; wing coverts the same; primary coverts dusky blackish, washed with ashy grey; quills dark brown; the primaries hoary grey externally; upper tail coverts and tail olivaceous brown, all but the two centre feathers tipped with white and with a subterminal black band; sides of the body orange buff; axillaries the same; under wing coverts dusky brown. Upper mandible dark horn colour; lower one bluish horn at the base and tip, darker in the middle; iris orange brown. Eyelids and orbital skin dusky blue; edges of the eyelids orange yellow; legs light plumbeous.

*Length.*—10·5 to 11 inches; wing 5·6; tail 5·2; tarsus 1·85; culmen 1·4.

*Hab.*—Eastern Himalayas, extending through Assam and Arrakan to Pegu and Tenasserim. Recorded from Nepaul, Darjeeling, Garo Hills, Arrakan,

the slopes of the Pegu Hills and Thayetmyo. According to Oates it is common throughout the northern half of Pegu, or perhaps only down to the latitude of Prome. Mr. Hume has, however, seen specimens from Rangoon. Capt. Wardlaw-Ramsay found it in Karenne. Mr. Davison met with it at Meetan, at the foot of Mooleyit; Mr. Darling at Kaukarit; and Capt. Bingham in the Thougyeen Valley. Mr. Oates found the nest in the Pegu Hills, containing three fresh eggs. It was in a bamboo clump, seven feet from the ground, made outwardly of dead leaves and coarse roots, lined with finer roots and a few feathers; another nest taken at Sikkim, Mr. Hume says, was also found in a bamboo clump, and contained two eggs; broad ovals, somewhat pointed towards one end, of a uniform pale greenish blue and fairly glossy. Size  $1.33 \times 0.98$  inch.

**564. Garrulax moniliger** (Hodgs.), Blyth, *J. A. S. B.* xii. p. 949; *Bp. Consp.* i. p. 371; *Ferd. B. Ind.* ii. p. 40, No. 413; *Godw.-Aust. J. A. S. B.* xxxix. p. 104; *Hume, Nests and Eggs, Ind. B.* p. 257; *id. Str. F.* 1874, p. 476; 1875, p. 123; *Blyth and Wald. B. Burm.* p. 108; *Hume, Str. F.* 1877, p. 34; *Oates, t. c.* p. 156; *id. and Dav. Str. F.* 1878, pp. 201, 515; *Hume, Str. F.* 1879, pp. 96, 169; *Bingham, Str. F.* 1880, p. 181; *Oates, Str. F.* 1881, p. 208; *id. B. Br. Burm.* p. 35.—*Cinclosoma moniliger*, *Hodgs. Asiat. Res.* xix. p. 147. *Ianthocincla pectoralis* (non Gould), *McClell. P. Z. S.* 1839, p. 160. *Garrulax maccllellandi*, *Blyth, J. A. S. B.* xii. p. 949.—The NECK-LACED LAUGHING-THRUSH.

Forehead and crown olive brown, the shafts rather darker; a collar of bright rusty on the back of the neck; back, scapulars, rump, upper wing and upper tail coverts olive brown, tinged with ferruginous; superciliary streak white; lores black, also the feathers round the eye; a line from the eye passing over the ear coverts and widening to form a broad collar across the breast; ear coverts white grey and sometimes black; chin, throat, cheeks and breast above the black collar white, tinged with rusty near the collar; *under* surface fulvous, turning to whitish on the abdomen; primaries and secondaries brown, their outer margin cinereous; tertiaries cinereous; tail feathers cinereous, all except the centre pair with a subterminal black band and a broad white tip. Bill dark horn, the tip paler; iris bright yellow; eyelids dull purple; legs light plumbeous.

*Length.*—11.3 to 12 inches; tail 4.9; wing 5; tarsus 1.7; bill from gape 1.3.

*Hab.*—Throughout the Indo-Burmese countries, and in the Himalayas from Assam to Sikkim. Found in the Khasia hills, Sylhet, Cachar, Lower Pegu, Nepaul, Darjeeling, Bhootan, Tonghoo and Thayetmyo. Blyth records it from Arrakan. In Tenasserim it has been found as far south as Tavoy and also in the Thoungyeen valley. It breeds during June and July. Eggs, greenish blue,  $1.2 \times 0.9$ .

**565. *Garrulax galbanus*, Godw.-Aust., P. Z. S. 1874, p. 10; *id.*, J. A. S. B. xliii. p. 162; Hume, Str. F. 1875, p. 394; *id.*, Str. F. 1879, p. 96; Sharpe, Cat. B. Br. Mus. vii. p. 445.**—The MUNIPUR LAUGHING-THRUSH.

Above olive brown, with a tinge of ochraceous on the mantle, rump and wing coverts; quills brown, their outer edge olive brown washed with ochraceous; the inner secondaries entirely ochraceous brown; the primaries edged externally with ashy olive; four centre feathers ashy, washed with olive, with a broad subterminal black band and a narrow ashy white tip; the others broadly tipped with white and also with a subterminal black band; head light ashy brown, also the nape and hind neck; the sides of the neck washed with ochraceous; *forehead and feathers over the eye black*, separated from the crown by a narrow line of hoary grey; lores, feathers below the eye, *ear coverts*, feathers at base of lower mandible and *chin black*; remainder of cheeks, chin, foreneck and *throat ochraceous yellow or buff*; under surface of the body yellowish buff, paler on the thighs and under tail coverts, which are nearly white; sides of the body and flanks ashy brown; under wing coverts and axillaries the same. Bill black; legs ash grey; iris red brown. (Godwin-Austen.)

*Length*.—7·75 inches; wing 3·6; tail 3·8; culmen 0·9; tarsus 1·3. (Sharpe.)

*Hab.*—Sunting, Manipur.

**566. *Garrulax gularis* (McClell.), Blyth, J. A. S. B. xi. p. 179; *Ferd.*, *Ibis*, 1872, p. 413; Hume, Str. F. 1875, p. 412; *id.*, 1879, p. 96. *Ianthocincla gularis*, McClell. P. Z. S. 1839, p. 159; Sharpe, Cat. B. Br. Mus. vii. p. 445.**—The YELLOW-THROATED LAUGHING-THRUSH.

General colour above, including the wing coverts, reddish brown; outer webs of the quills and entire inner secondaries the same; tail feathers reddish brown at base of the central feathers and dark brown terminally; *outer feathers rufous* with black shafts and shaded with blackish brown on the inner web as they approach the centre; head, nape, hind neck and sides of the neck dark slaty grey; lores, nasal plumes, feathers in front of the eye, ear coverts, a spot at base of lower mandible and another at the chin black; cheeks, *throat and chest yellow*, paler and whiter on the lower breast and abdomen; sides of breast dark slaty grey; thighs and under tail coverts deep chestnut; under wing coverts and axillaries chestnut.

*Length*.—9·3 inches; wing 3·85; tail 3·7; tarsus 1·5; culmen 1·2.

*Hab.*—Assam and hills of N. E. Bengal (Khasia).

**567. *Garrulax delesserti*, *Ferd.*, B. Ind. ii. p. 37; Gould, B. Asia, part xix.; Hume, Str. F. 1879, p. 96; Sharpe, Cat. B. Br. Mus. vii. p. 446. *Crateropus delesserti*, *Ferd.*, *Madr. Journal*. x. p. 256; *id.*, *ill. Ind. Orn.* pl. xii.**—The WYNAAD LAUGHING-THRUSH.

Head, nape and neck dull slaty brown; lores, feathers round the eye and ear-coverts black; cheeks, chin and throat white, the foreneck ashy; breast ashy grey; under surface of the body light reddish brown; upper back dark brownish rufous paler on the rump and upper tail coverts; the wing coverts like the back; primary coverts and quills externally edged with dark brownish rufous, the inner secondaries entirely so; tail black, washed with reddish brown at base; axillaries and under wing-coverts like the back. Bill dusky, yellow at base beneath; legs fleshy; irides dull red.

*Length*.—9.5 to 11 inches; wing 4 to 4.3; tail 4.1 to 4.4; tarsus 1.5; culmen 1.2.

*Hab*.—The Wynaad, Brahmagherry Hills and the Neilgherries in Southern India. Jerdon says it associates in large flocks, and that he saw them and procured specimens on the slopes of the Neilgherries, where Mr. Delessert procured his specimen.

#### Gen. *Stactocichla*.—Sharpe.

General characters as in *Garrulax*; nostrils hidden by plumes; rictal bristles very strong and reaching beyond the nostrils; the feet laid behind reaches the tip of the tail. (Sharpe.)

**568. *Stactocichla merulina* (Blyth), Sharpe, Cat. B. Br. Mus. vii. p. 449. *Garrulax merulinus*, Blyth, J. A. S. B. xx. p. 521; *Jerd.*, *Ibis*, 1872, p. 303; *Hume, Str. F.* 1875, p. 394; 1879, p. 96.—The NAGA LAUGHING-THRUSH.**

Above rufescent brown, the wing coverts a little duller, the quills rufescent on their outer webs; tail brown, the feathers margined with rufescent; lores dull ashy; feathers in front of and below the eye, also on the forepart of the cheeks, dusky blackish; ear coverts rufescent brown, separated from the crown by an ill-defined streak of white; throat, foreneck and chest yellowish-buff, the feathers with broad triangular spots of black; breast rufous buff, paler on the abdomen; sides of body rufous brown; thighs and under tail coverts rufescent; under wing coverts like the breast.

*Length*.—8.2 inches; wing 3.55; tail 3.5; tarsus 1.5; culmen 1. (Sharpe.)

Mr. Sharpe adds that the amount of spotting on the throat varies greatly in this species, also the extent of the orange buff tinge on the foreneck.

*Hab*.—Khasia and Naga Hills, extending into Manipur.

#### Gen. *Grammatoptila*.—Reich.

Head with a large crest. Bill moderately long, stout, and notched; it is deeper at the nostrils than it is broad; nostrils exposed, with a large superior operculum; rictal bristles few; wings short and rounded, the 5th and 6th quills longest; tarsus strong, longer than the bill; feet stout.

**569. *Grammatoptila striata* (Vigors), Reichenb. Syst. Av. Nat. pl. lxxv. fig. 8; Jerd., B. Ind. ii. p. 11.; id., Ibis, 1872, p. 298; Hume, Nests and Eggs, Ind. B. p. 237; Godw.-Aust., J. A. S. B., xlvii. p. 15; Ball, Str. F. 1878, p. 234; Scully, Str. F. 1879, p. 287; Hume, Str. F. 1879, p. 95; Sharpe, Cat. B. Br. Mus. vii. p. 449. *Garrulus striatus*, Vigors, P. Z. S. 1830, p. 7; Gould, Cent. Him. B. pl. 37.—THE STRIATED JAV THRUSH.**

Above rufous brown, with a slight olive wash on the rump and upper tail coverts, each feather with a mesial white streak; wing coverts rufescent, with fulvous shaft-streaks; the primary coverts reddish brown tipped with dusky; quills the same but rufous brown externally; innermost secondaries washed with olivaceous and white shafted; tail reddish brown, margined with rufous brown on their outer webs, except the outermost on each side which are margined with pale ashy. Head with a large crest; crown and nape brighter rufous than the back, the feathers with white shaft-streaks; ear coverts, cheeks and throat dark rufous brown, also with white shaft-streaks; lores rufous buff; under surface of body light ashy brown, all the feathers streaked with white, the streaks margined with dusky; abdomen more uniform pale ashy, the streaks being obscure. Under tail coverts light ashy brown, streaked with dull white; under wing coverts deep fawn colour with paler shaft-streaks. Bill black; legs dusky plumbeous; irides red brown.

*Length*.—11·5 to 12 inches; wing 5·25 to 5·8; tail 5·4; tarsus 1·8.

*Hab.*—The Himalayas from Simla to Bhootan extending into the hill-ranges of Eastern Bengal. The British Museum specimens are from near Simla, Kumaon, Nepaul, Darjeeling and Bhootan. About Darjeeling, Jerdon says it is a very common bird from about 6,000, to 9,000 feet, but is more often heard than seen. It frequents the densest thickets and are always in pairs or in small and scattered parties. One of its calls, he says, is not unlike the clucking of a hen which has just laid an egg. It feeds both on fruit and insects.

#### Gen. **Dryonastes**—Sharpe.

General characters as in *Garrulax*. Nostrils hidden by plumes; bill moderately long; rictal bristles strong; tail moderate, very slightly exceeding the wing in length.

**570. *Dryonastes ruficollis* (Jerd. and Selby), Sharpe, Cat. B. Br. Mus. vii. p. 454. *Ianthocinclia ruficollis*, J. and S. Ill. Orn. 2nd Ser. pl. 2. *Garrulax ruficollis*, Blyth, J. A. S. B. xii. p. 950; Jerd., B. Ind. ii. p. 38, No. 410; Hume, Nests and Eggs, Ind. B. p. 254; id., Str. F. 1879, p. 96; id., Str. F. 1879, p. 96.—THE RUFOUS-NECKED LAUGHING-THRUSH.**

*Head and nape dark slaty grey*; a broad frontal band, nasal plumes, lores, orbital region, cheeks, ear coverts, throat and foreneck deep black; sides of

the neck, lower abdomen and under tail coverts bright rufous; rest of under surface ashy olive brown; back and quills and their coverts olive brown, the primaries margined on their outer web with ashy; tail black, obsoletely banded across with dusky under certain lights; thighs ashy olive brown, washed with ferruginous; under wing coverts and axillaries the same. Bill black; legs livid brown; irides dull red.

*Length.*—9 to 9·5 inches; wing 3·75 to 4; tail 4·3 to 5·5; tarsus 1·4; culmen 0·9.

*Hab.*—Nepaul to Assam, and the hills of Upper Burmah. Jerdon says it is found at the foot of the Himalayas, extending up to the slopes of the hills to perhaps 2,000 feet, and is also common in the forests of Assam, Sylhet, Cachar and the Eastern frontier of Bengal. He observed it in the Sikkim Terai, whence specimens have since been found. It is generally in large troops of from twenty to thirty. Their presence is soon known by an extraordinary burst of harsh cackling, chattering, &c. They affect bamboo jungle and feed chiefly on the ground, insects and seeds being their food. Nests have been found in Darjeeling and Sikkim. Eggs, clear pale blue.

**571. *Dryonastes chinensis* (Scop.), Sharpe, Cat. B. Br. Mus. vii. p. 455. *Lanius chinensis*, Scop. *Del. Flor. et. Fauna Insubr.* ii. p. 86. *Garrulax chinensis*, Blyth, *J. A. S. B.* xiv. p. 598; *Bp. Conspect.* i. p. 370; *Wald.*, *P. Z. S.* 1866, p. 549; *Blyth and Wald. B. Burm.* p. 107; *Hume and Dav.*, *Str. F.* 1878, p. 289; *Hume, Str. F.* 1879, p. 96; *Oates, B. Br. Burm.* i. p. 38.—THE BLACK-THROATED LAUGHING-THRUSH.**

Head and nape slaty blue; nasal plumes and base of forehead black; round the eye and a line over the ear coverts white; a patch below the lores, chin and throat also black; *hinder cheeks and ear coverts white*; foreneck black washed with reddish brown on the lower part; back olive brown; wing coverts the same; the bastard wing washed with ashy; quills externally olive brown; tail the same but with the tips and the outer webs black, washed with olive brown near the base; breast and sides of foreneck ashy grey; *abdomen, sides of the body, and thighs olive brown, darker on the under tail coverts*; axillaries and under wing coverts olive brown. Bill black; legs dusky brown; iris lake.

*Length.*—10·5 to 11 inches; wing 4·5 to 4·9; tail 4·7 to 5; tarsus 1·65; culmen 1·1.

*Hab.*—Burmah and Tenasserim. Occurs in Pegu, but rarely. Oates procured it once or twice near Kyakpadien, and again in the forests between Nyounglay-bin and Shwaygheen on the west of the Sittang river. In Tenasserim Davison found it from Pahpooon down to Meetan at the foot of the Mooleyit. It has also been got in the Thoungyeen Valley.

**572. *Dryonastes nuchalis*** (*Godw.-Aust.*), *Sharpe, Cat. B. Br. Mus.* vii. p. 456. *Garrulax nuchalis*, *Godwin-Aust., Ann. and Mag. Nat. Hist.* xviii. p. 411; *id.*, *J. A. S. B.* xlvii. p. 17, pl. x.; *Hume, Str. F.* v. p. 58; *id.*, *Str. F.* 1879, p. 96.—THE BROWN-NAPED LAUGHING-THRUSH.

Crown of head and nape slaty grey; lores, nasal plumes, feathers in front of and round the eye black; base of forehead black; separated from the crown by a narrow line of white; cheeks, ear coverts, sides of throat also of the neck white; base of cheeks, chin and middle of throat black; chest light ashy; abdomen, flanks, thighs and under tail coverts olive brown, also the under wing coverts and axillaries; *hind neck*, mantle and wing coverts rufescent olive brown; bastard wing feathers ashy; primary coverts washed with rufescent, also the outer webs of the quills, the primaries rather ashy; tail dusky brown, blackish towards the tips and washed with olive brown on both webs. Bill black; legs dusky.

*Length*.—10 to 10·5 inches; wing 4·2 to 4·5; tail 4·3 to 4·6; tarsus 1·55; culmen 1·05.

*Hab.*—Lhota—Naga Hills in North Eastern Bengal. (*Sharpe.*)

**573. *Dryonastes strepitans*** (*Tickell*), *Sharpe, Cat. B. Br. Mus.* vii. p. 457. *Garrulax strepitans*, *Blyth, J. A. S. B.* xxiv. p. 268; *id. B. Br. Burm.* p. 107; *Hume and Dav., Str. F.* 1878, p. 288; *Hume, Str. F.* 1879; p. 96; *Oates B. Br. Burm.* p. 37.—TICKELL'S LAUGHING-THRUSH.

Forehead and nasal plumes, also the lores black, paling into chocolate brown on the forepart of the crown, and reddish brown on the crown of the head and nape; feathers over and round the eye, cheeks and fore part of the ear-coverts black; hinder ear coverts chestnut; chin and edge of the throat black; centre of the latter and foreneck blackish chocolate, the feathers tipped with reddish brown. Upper parts olive brown; wing coverts the same; mantle slaty grey; a hoary grey collar on the neck, on the sides of which is a white spot; primary coverts and quills blackish brown; their outer webs edged with olive brown, rather broader on the secondaries; rump and upper tail coverts olive brown; tail blackish, washed with olive brown on the edge, and obscurely barred with dusky under certain lights; breast and middle of abdomen slaty grey, inclining to hoary white; sides of body, flanks, thighs, under wing and under tail coverts olive brown. Bill black; legs and feet dark brown; iris lake red to crimson.

*Length*.—11·5 to 11·8 inches; wing 5·3 to 5·5; tail 5·3 to 5·5; tarsus 1·8; culmen 1·15.

*Hab.*—The Mooleyit Mountain in Tenasserim, at elevations of from 3,000 to 5,000 feet. Davison says it is by no means uncommon, occurring in small flocks of twenty or more, and keeping entirely to the forest, especially to the ravines, where this is densest. He adds that it is very shy and beats a rapid retreat at the approach of anybody.

**574. Dryonastes sennio** (*Swinhoe*), *Sharpe, Cat. B. Br. Mus.* viii. p. 459. *Garrulax sennio Swin., Ibis*, 1867, p. 403; *Ander. Zool. Exp. West. Yunnan*, p. 627; *Hume, Str. F.* 1879, p. 96. *Garrulax albosuperciliaris, Godw.-Aust., P. Z. S.* 1874, p. 45; *id. J. A. S. B.* xliii. pt. 2, p. 161, pl. vii.; *Hume, Str. F.* 1875, p. 393; *Godw.-Aust. Ann. and Mag. Nat. Hist.* xvii. p. 34; *Hume, Str. F.* 1876, p. 502.—THE WHITE-BROWED LAUGHING-THRUSH.

Crown of the head chestnut brown; hind neck slightly rufescent, the feathers with dusky streaks; nasal plumes blackish; lores, a broad band below the eye, along the sides of the face, yellowish white; eyebrow pure white; ear coverts dark chestnut brown; cheeks and throat lighter chestnut brown; centre of body pale ochraceous buff; sides of breast and flanks olive brown; a tuft of buffish fawn feathers on each side of the lower back; under tail coverts deep fawn; under wing covert yellowish buff; upper back olivaceous brown; wing coverts the same; primary coverts dusky brown; quills light brown, olivaceous on their outer webs; tail feathers rufous brown, dusky towards the tips and on their outer webs; the centre feathers rufous brown; all transversely barred with dusky under certain lights. Bill horny brown; iris chestnut red.

*Length.*—8·2 to 8·5 inches; wing 4·05; tail 4·05; tarsus 1·5; culmen 1.

*Hab.*—Hills of North-Eastern Bengal to South China.

**575. Dryonastes cærulatus** (*Hodgs.*), *Sharpe, Cat. B. Br. Mus.* vii. p. 461. *Cinclosoma cærlatum, Hodgs., Asiat. Res.* xix. p. 147; *id. Icon. ined. in Br. Mus. Passeres*, pl. 167; *Sharpe, Cat. B. Br. Mus.* vii. p. 461. *Crateropus cærlatus, Blyth, J. A. S. B.* xi. p. 179. *Garrulax cærlatus, Blyth, J. A. S. B.* xii. p. 951; *Ferd. B. Ind.* ii. p. 36, No. 408; *Hume, Nests and Eggs, Ind. B.* p. 254; *Godw.-Aust., J. A. S. B.* xliii. p. 160; *Hume, Str. F.* 1879, p. 96. *Ianthocincla cærlatum Bp. Consp.* i. p. 377.—THE GREY-SIDED LAUGHING-THRUSH.

Base of the forehead, nasal plumes, lores, feathers round the eye, edge of the throat, base of lower mandible and a streak below the eye black; ear coverts grey, tinged with rufescent and forming a conspicuous patch; cheeks reddish brown or rufescent, the feathers narrowly (in some only) edged with black; the general colour above including the lesser and median wing coverts, mantle, and crown of the head rufous or olivaceous brown, the head in some varied with black margins to the feathers; the greater coverts brighter rufous, as are also the whole of the innermost secondaries; outer web of primaries fulvous brown; throat and under surface of the body white; sides of the upper breast reddish brown; the sides of the body ashy grey, slightly washed with brown; under tail coverts white; tail chestnut, the inner webs paler; upper tail coverts reddish brown, also the axillaries and under wing coverts; bill black; legs fleshy white; orbital skin livid; irides red-brown.



*Length*.—10 inches ; wing 4·1 ; tail 4·6 ; tarsus 1·65 ; culmen 1·1.

*Hab*.—Eastern Himalayas, extending to Assam and the Naga Hills, recorded from Nepal, Darjeeling and Sikkim. In the latter country Jerdon says it is not rare from about 2,000 to 4,000 feet, and records a nest having been brought to him at Darjeeling, containing two pale blue eggs. According to Mr. Gammie, quoted by Hume in "Nests and Eggs," it breeds in Sikkim during May and June, always in forests with a more or less dense undergrowth. The nest is cup-shaped, usually rather shallow, composed of dry bamboo leaves and twigs and lined with root fibres. The eggs average in size 1·16 × 0·8.

**576. *Dryonastes subcærulatus*, Hume, *Str. F.* 1878, p. 140; *id. Str. F.* 1879, p. 96; *Sharpe, Cat. B. Br. Mus.* vii. p. 463.—HUME'S LAUGHING-THRUSH.**

Mr. Hume's description is comparative, and runs thus: "Like *G. cærulatus*, but more olivaceous and less rufescent above, and with the ear coverts, feathers behind the eye and posterior portion of cheeks silvery white, more or less tipped with black, and with the three exterior tail feathers on either side broadly tipped with white.

*Length*.—10 to 11 inches ; wing 4·2 to 4·6 ; tail 5 to 5·8 ; tarsus 1·48 to 1·6 ; culmen 0·96 to 1·03.

*Hab*.—Khasia Hills near Shillong.

#### Gen. *Actinodura*.—Gould.

Head crested ; bill moderately long, compressed and slightly curved ; nostrils linear, with a distinct superior membrane ; rectal bristles, four on each side, fairly strong and stiff ; wings short and rounded ; 5th, 6th and 7th quills subequal ; tail long ; tarsus moderate ; feet stout ; plumage dense and silky ; wings barred ; tail banded.

**577. *Actinodura Egertoni*, Gould, *P. Z. S.* 1836, p. 18 ; *Hodgs. Icon. ined. in Br. Mus. Passeres. App.* pl. 82 ; *Ferd. B. Ind.* ii. p. 52, No. 427 ; *Hume, Nests and Eggs, Ind. B.* p. 266 ; *id. Str. F.* 1879, p. 97 ; *id. Str. F.* vii. p. 153 ; *Sharpe, Cat. B. Br. Mus.* vii. p. 463.—THE RUFOUS BAR-WING.**

Head strongly crested, ashy brown, with rufous edges to the feathers ; forehead, nasal plumes, lores, feathers, round the eye and forepart of cheeks chestnut rufous ; ear-coverts and sides of neck ashy brown ; mantle fulvous ; wing coverts bay, the inner ones and bastard wing feathers fulvous brown ; primary coverts brown, rather dusky at the ends, sepia brown on the outer webs of the primaries, which are barred with dusky black near the tips, bright bay at the base ; upper tail coverts and tail rufescent brown, with dusky cross-bars ; the tail feathers tipped with white ; thighs earthy brown ; sides of body fulvous brown ; abdomen white ; bill horny ; legs pale brown ; irides brown.

*Length*.—8 to 8·5 inches; wing 3·35 to 3·4; tail 4·5 to 4·8.

*Hab*.—The Himalayas extending into North-Eastern Bengal. Common from Nepaul to the hill ranges of Assam and Sylhet. In Sikkim it is found at from 5,000 to 6,000 feet elevation, associating in small flocks, and feeding on insects and fruit.

**578. *Actinodura Ramsayi*** (*Walden*), *Sharpe, Cat. B. Br. Mus.* vii. p. 465. *Actinura Ramsayi*, *Walden, Ann. and Mag. Nat. Hist.* xv. p. 402; *Hume, Str. F.* 1875, p. 404; *Wald. in Blyth's B. Burm.* p. 108; *Godwin-Austen, Ann. and Mag. Nat. Hist.* xvi. p. 340; *Ramsay, Ibis*, 1877, p. 464, pl. xii.—RAMSAY'S BAR-WING.

Whole upper plumage ashy brown tinged with ferruginous on the forehead; most of the feathers, especially the scapulars and upper tail coverts, barred with black; feathers round the eye white; lores dusky; ear coverts ashy brown; sides of the back and of the head, also the lateral feathers of the crest, ashy; under surface of body ochraceous buff; tail olive brown, with numerous cross-bars of black and tipped with white; outer webs of primaries and secondaries ferruginous, barred throughout with black; inner webs brown; tertiaries olive brown barred with black; axillaries and under wing coverts fawn colour. Bill horny brown; legs slaty brown; irides light hair brown.

*Length*.—9·5 to 9·8 inches; wing 3·5; tail 5; tarsus 1·15; culmen 0·7.

*Hab*.—Karenne (British Burmah), at an elevation of about 3,000 feet. Affects jungle-covered mountain-streams.

**579. *Actinodura Waldeni***, *Godwin-Austen, P. Z. S.* 1874; *Gould, B. Asia*, part xxvii.; *Hume, Str. F.* 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 465.—WALDEN'S BAR-WING.

Above rufous brown, a little clearer rufous on the rump and upper tail coverts; wing coverts like the back, the greater series edged with lavender grey near the tips of the outer webs; bastard wing feathers dull ashy with a tinge of rufous and barred across with black; primary coverts black, forming a conspicuous wing spot; quills black, externally rufous, brighter towards the base of the primaries, the outer web all barred with black; secondaries dull brown, barred across with black; outer primaries edged towards their tip with lavender grey; tail feathers black, all except the centre ones tipped with white, bright rufous towards the base and barred with black; hind neck dull ashy brown overspreading the mantle; head crested, dusky brown, the feathers edged with ashy whitish; lores and cheeks dusky ash brown, the latter washed with rufous; ear coverts hoary grey; entire under surface of the body rufous, paler on the throat and chest, which are slightly mottled with dark rufous brown centres to the feathers; flanks, thighs and under tail coverts darker and more of a mahogany-brown; under wing coverts and axillaries rufous brown like the breast.

*Length*.—7·5 inches; culmen 0·8; wing 3·65; tail 3·4; tarsus 1·3. (*Mus. H. H. Godwin-Austen*; ex. *Sharpe*.)

*Hab*.—Munipur, N.-E. Bengal.

**580. *Actinodura Nipalensis*** (*Hodgs.*), *Gray, Gen. B. i. p. 226*; *Jerd.*, *B. Ind. ii. p. 53, No. 428*; *Gould, Birds Asia*, pt. xviii.; *Godw.-Aust., Ann. and Mag. Nat. Hist.*, xvi. p. 340; *Hume, Str. F.* 1879, p. 97. *Cinclosoma nipalensis*, *Hodgs., Asiat. Research.* xix. p. 145.—The HOARY BAR-WING.

PLATE.—*Fig. 2*—1 and 2.

Plumage above rufescent brown with an olivaceous tinge; head and nape, also the crest, which is full and soft, pure brown, the centre of each feather hoary; lores streaked with hoary; cheeks black; under surface of body pale ashy brown, fulvescent on the throat, more so on the lower flanks and thighs, and tawny on the under tail coverts; rump and upper tail coverts more rufous than the back, the latter with indistinct dusky cross bars; bastard wing feathers grey, barred and tipped black; primary coverts black; quills blackish brown, externally bright rufous and chequered with narrow cross bars of black; inner secondaries fulvous brown, inclining to ashy at the ends and barred across with black; tail black, barred with rufous and black near the base and tipped with white; axillaries ashy fulvous; under wing coverts light rufous. Bill dusky horny; legs fleshy brown; irides brown.

*Length*.—7·5 to 8 inches; wing 3·6 to 3·8; tail 3·1 to 3·5; culmen 0·8; tarsus 1·25.

The young are paler brown and more rufescent on the head, where the white streaks are broader and more plainly marked; cheek stripe brown.

*Hab*.—The Himalayas, extending into the hills of N.-E. Bengal. According to Jerdon it replaces *A. Egertoni* at higher elevations, being found from about 7,000 to 10,000 feet and upwards. It is recorded from Nepaul, Darjeeling, Sikkim and Bhootan. In its habits it is like its congeners, quite arboreal, never descending to the ground. Feeds on insects and berries.

**581. *Actinodura Dafflaensis***, *Godwin-Austen, Ann. and Mag. Nat. Hist.* xvi. p. 339; *id. J. A. S. B.* xlvi. part 2, p. 77, pl. iv.; *Hume, Str. F.* 1876, p. 219; 1879, p. 97; *Sharpe, Cat. B. Br. Mus.* vii. p. 467.—The DAFLA BAR-WING.

*Adult female*.—(Daffla hills, February). General colour above dark rufous chocolate, becoming lighter rufous on the rump and upper tail coverts; wing coverts rufous brown; the greater series edged with lavender grey near the tips of the outer webs; bastard wing feathers ashy grey barred with black; primary coverts black, forming a wing patch; quills black, externally sandy brown, inclining to bright rufous near the base of the primaries, the outermost of the latter being margined with grey; all the quills chequered with black

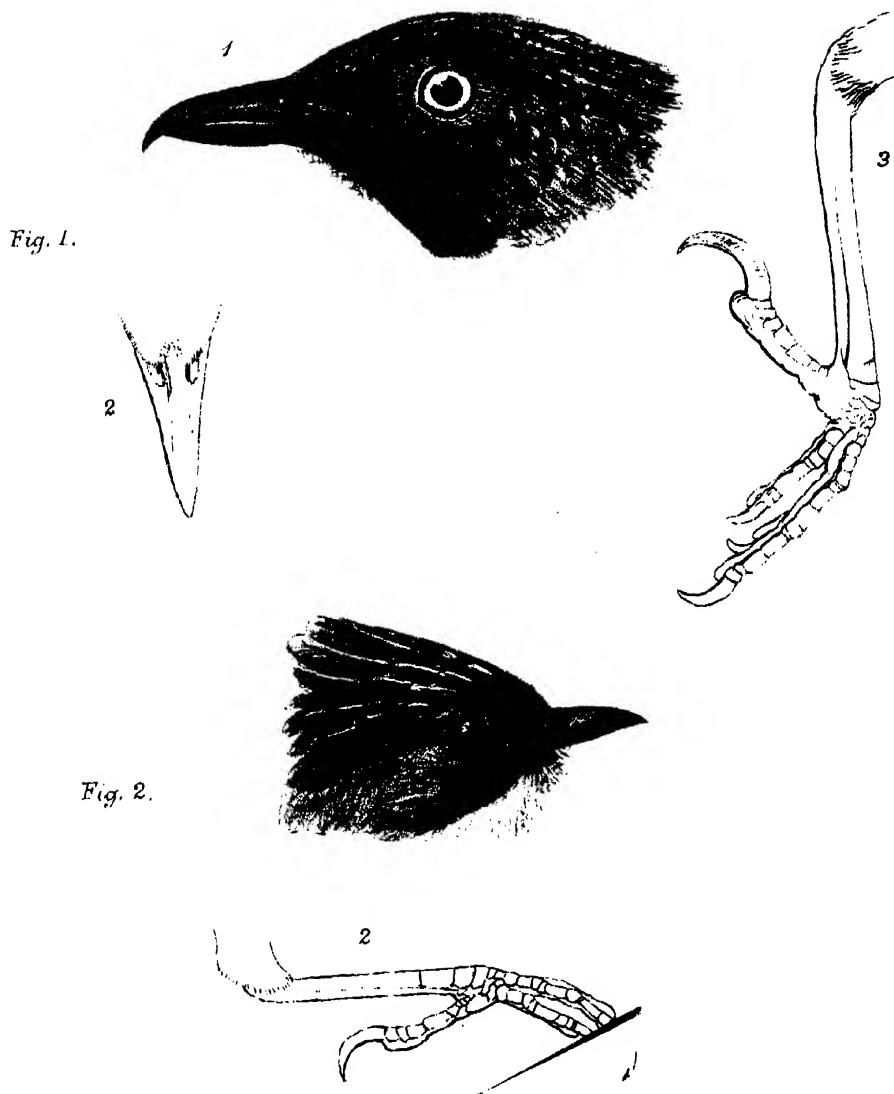


Fig. 1. 1, 2 & 3, Head, & Foot of *Myiophoneus Temminckii*.  
 Fig. 2. 1 & 2, Head and Foot of *Actinodura nipalensis*.



bars on the outer web, these bars more distinct on the secondaries and continued right across to the innermost of the latter, which are also browner; tail feathers black, bright rufous towards the base, with a few black bars, the rufous colour extending for half the distance of the centre feathers and diminishing towards the outer ones, all but the centre feathers tipped with white; head strongly crested, dusky brown, the frontal feathers narrowly fringed with greyish white; hind neck and mantle dull earthy brown; lores and feathers below the eye dusky; over the latter a shade of ashy not sufficient to form an eyebrow; ear coverts dull ashy grey slightly blacker towards the eye; cheeks, throat, and entire breast ashy greyish, a little whiter on the throat, all the feathers obscurely centred with dusky brown; flanks and thighs dull rufous, the latter washed with grey like the abdomen; under tail coverts rufous; under wing coverts and axillaries ashy, the latter browner.

*Length*.—7·4 inches; culmen 0·75; wing 3·15; tail 3·1; tarsus 1·25. (*Mus. H. H. Godwin-Austen*.)

*Hab*.—Dafila Hills.

**582. *Actinodura Ogleii*, *Godwin-Austen*, *J. A. S. Beng.* xlvii. part 2, p. 42, pl. xi. (1877); *Hume*, *Str. F.* 1877, p. 341; *Sharpe*, *Cat. B. Br. Mus.* vii. p. 466. *Actinodura Oglei*, *Hume*, *Str. F.* 1879, p. 97.—OGLE'S BAR-WING.**

*Adult male*.—(Type of species).—General colour above fulvescent brown, with fine dusky cross markings on most of the feathers; wing coverts like the back; the greater series a trifle more rufescent; quills dusky brown, externally fulvous brown and barred with blackish, these bars being continued across the inner secondaries; upper tail coverts a little more fulvous than the back and with the same dusky cross markings; tail feathers brown externally, washed with dull fulvous brown and regularly barred across with dusky cross lines; head and hind neck golden brown, slightly overspreading the mantle, many of the feathers edged and tipped with black, which appears to form a bar separating the head from the white-spotted plumes on the eyebrow and sides of neck; base of forehead and lores with blackish shaft lines; a broad white eyebrow continued on to the sides of the neck and behind the ear coverts in the form of ovate white drops bordered with black; ear coverts black; cheeks and throat pure white; sides of neck and breast ashy grey; sides of body and abdomen rufescent brown, clearer on the under tail coverts and thighs; under wing coverts and axillaries fulvous brown, more or less washed with ashy. Bill black above, grey below; legs and feet umber brown; iris crimson lake. (Ogle.)

*Length*.—6 inches; culmen 0·85; wing 2·7; (*Sharpe*); tail 2·5; tarsus 1·05. (*Mus. H. H. Godwin-Austen*.) (*Sharpe*.)

*Hab*.—Sadiya, Assam.

This species is rather aberrant in form, having a thicker bill and shorter tail than the other *Actinoduræ*.

Gen. **Crateropus**.—*Swainson*.

Bill short or moderate, much compressed, rather deep, and curving from the base; nostrils apert; a few short rectal bristles; wing short, rounded, 4th, 5th and 6th quills nearly equal and longest; tail moderately long and broad; tarsus stout; frontal plumes rigid; general colour sombre grey, mixed more or less with rufescent, and the feathers mesially striated with dusky.

**583. Crateropus canorus** (*Lin.*), *Sharpe, Cat. B. Br. Mus.* vii. p. 479. *Turdus canorus*, *Lin., Syst. Nat.* i. p. 293. *Malacocircus terricolor*, *Hodgs., J. A. S. B.* 1836, 771; *Ferd., B. Ind.* ii. p. 59, No. 432; *Murray, Hdbk., Zool., &c., Sind*, p. 142. *Malacocircus bengalensis*, *Blyth, Cat. of B.* p. 140; *Murray, Vert. Zool. Sind.* p. 133.—THE BENGAL BABBLER.

Head and hind neck pale ashy; upper back ashy or grey brown, the feathers pale shafted; feathers of the lower back and rump greyish brown, and very lax; outer webs of primaries pale grey; inner webs dusky; tertiaries dusky, the feathers with indistinct darker cross bars; tail reddish ash or brown, the lateral feathers dusky brown, with faint bars, and the external ones tipped with whitish; chin and throat ashy, the feathers edged and shafted lighter; breast fulvous brown, also with lighter edges and shafts; abdomen, vent and under tail coverts buffy white, paler and almost white on the under tail coverts. Bill yellowish brown; irides pale yellow; legs pale yellow.

*Length*.—9 to 10 inches; wing 4·25; tail 4·5; bill at front 0·75.

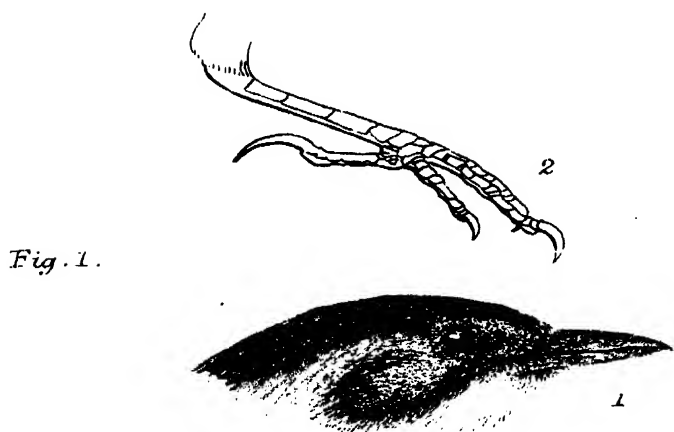
*Hab.*—India generally, extending to Nepaul. Common in the Punjab, N.-W. Provinces, Oudh, Central India, Bengal, Sind, on the Western Coast and in Kutch and Kattiawar. Recorded from Aboo, North Guzerat and Jodhpore, also Rajpootana, Concan, Deccan, Madras and Travancore. Breeds from April to July, wherever it occurs, building in thick bushes or gardens laying 3 eggs, variable both in size and colour. In colour they are from a pale blue to a deep dull blue and glossy.

**584. Crateropus griseus** (*Gmel.*), *Sharpe, Cat. B. Br. Mus.* vii. p. 481. *Turdus griseus*, *Gm., Syst. Nat.* i. p. 824. *Malococercus griseus*, *Blyth, J. A. S. B.* xiii. p. 368; *Ferd., Ill. Ind. Orn.* pl. 19; *Bp. Consp.* i. p. 373; *Ferd., B. Ind.* ii. p. 60, No. 433; *Hume, Str. F.* iv. p. 456. *Timalea grisea*, *Ferd., Madras, Journ.* x. p. 258.—THE WHITE-HEADED BABBLER.

PLATE (*Figs. 1—1 and 2*).

Above earthy brown, streaked on the mantle and scapulars with dull white; rump and upper tail coverts light ashy brown, paler than the back and with whitish shaft lines; lesser and median wing coverts like the upper surface of

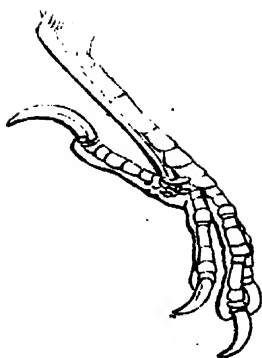
AVIFAUNA OF BRITISH INDIA



*Fig. 1.*



*Fig 2.*



*Fig. 1. Head and leg of Crateropus grisea.*  
*Fig 2. Head and leg of Cutia nipalensis.*





the body; quills dark brown, ashy on the outer webs; innermost secondaries light brown; tail dark brown, ashy at base, and with pale ends; head creamy buff; cheeks and ear coverts dark brown, washed with fulvous; throat blackish brown, the feathers margined with fulvous brown; hinder surface ashy brown; the middle of the abdomen pale fulvous; feathers of the chest and sides of the body streaked with white, also the under tail coverts, which are ashy fulvous. Bill yellowish; legs fleshy yellow; iris yellowish white.

*Length*.—8·5 to 9 inches; wing 3·8 to 4; tail 4; tarsus 1·3.

*Hab.*—The Deccan and Southern India. Common and abundant in the Carnatic; also Travancore and the Northern Circars. Affects hedges, gardens, &c. Breeds from January to May and June. Eggs the same colour as the last and other species of the genus.

**585. *Crateropus Somervillei* (Sykes), Sharpe, *Cat. B. Br. Mus.* vii. p. 482. *Timalia Somervillei*, Sykes, *P. Z. S.* 1832, p. 88; *id.*, *J. A. S. B.* iii. p. 536; *Jerd.*, *Madr. Journ.* x. p. 257. *Malacocercus Somervillei*, Blyth, *J. A. S. B.* xiii. p. 368; *Jerd.*, *Ill. Ind. Orn.* text to pl. 19 (1847); *Jerd.*, *B. Ind.* ii. p. 63, No. 435; *Fairbank*, *Str. F.* 1876, p. 258; *Hume*, *t. c.* p. 456; *id.*, *Str. F.* 1879, p. 97; *Vidal*, *Str. F.* 1879, p. 64. *Malacocercus Sykesii*, *Jerd.*, *B. Ind.* ii. p. 63.—The RUFOUS-TAILED BABBLER.**

Above light brown, the head a little more dusky than the back, the feathers of which latter are white-shafted; *rump and upper tail-coverts sandy buff*, the feathers white-shafted; quills dark brown, their outer margin ashy; *tail rufous brown, the outermost feathers tipped paler*, and all with obsolete dusky transverse bars under certain lights; lores dull whitish; sides of face pale ashy; throat dusky brown, the feathers margined with ashy; foreneck and chest ashy; the feathers with fulvous shaft streaks; under surface of the body light tawny buff; the under wing coverts deeper and more fawn-coloured. Bill horny yellow; legs dirty yellow; irides pale yellow.

*Length*.—9·5 to 9·8 inches; wing 4·1 to 4·4; tail 4 to 4·3; tarsus 1·45.

*Hab.*—The Concan and Deccan. Found on the Khandalla Ghauts and along the Western Coast. Breeds during May and June. Eggs greenish blue.

### Gen. *Conostoma*.—Hodgs.

Bill short, stout, compressed and arched with the culmen broad and rounded; nostrils round, hidden by plumes; rectal bristles scanty and feeble; wing short, rounded, 6th, 7th and 8th quills about equal and longest; tail long; feet large and strong and with four toes; outer toe longer than the inner; hind toe very large; claws long, and slender.

**586. *Conostoma æmodium***, Hodgs., *J. A. S. B.* x. p. 857; *id.*, *Icon. ined. in Br. Mus. Passeres*, pl. 263; Sharpe, *Cat. B. Br. Mus.* vii. p. 485; *Jerd.*, *B. Ind.* ii. p. 10, No. 381; *Hume*, *Nests and Eggs, Ind. B.* p. 237; *id.*, *Str. F.* 1879, p. 95.—The RED-BILLED JAY-THRUSH.

Above dull olive or pale earthy brown, paler on the upper tail coverts; wing coverts and outer margin of primary coverts like the back; outer edge of the first three primaries and also of the secondaries rufescent brown; tail ashy, the feathers washed with rufous along the sides of the shafts; forehead creamy white; crown pale earthy or dull olive brown; lores and feathers below the eye the same but blackish brown at their bases; sides of face and ear coverts pale earthy brown; under surface of body light ashy, the flanks washed with olive brown; axillaries and under wing coverts like the breast, the lower series creamy buff. Bill dull orange; legs slaty grey; irides brown.

*Length*.—10·5 to 11·5 inches; wing 4·9 to 5; tail 4·9; tarsus 1·5.

*Hab*.—Eastern Himalayas, Nepaul and Sikkim. Jerdon, quoting Hodgson, says it is a shy forester, adhering to the wilds and tenanting the skirts of forests, where brushwood as well as trees abound. Food chiefly insects. Breeds in Native Sikkim at an elevation of 10,000 feet. A nest sent to Mr. Hume contained three eggs. It was a regular and perfect hemisphere both externally and internally, compactly made of coarse grass and bamboo leaves, and lined on the inside with stiff and fine grass stems. According to Mr. Hume the egg is a regular moderately elongated oval, slightly compressed towards the smaller end. Ground colour dull white, sparsely blotched, streaked, and smudged with pale yellowish brown. Size 1·11 × 0·8.

#### Gen. *Suthora*.—Hodgson.

Bill shorter than in *Conostoma*, stout and nearly as high as wide; culmen turned and much rounded; nostrils concealed by plumes; wing short, rounded, 6th quill the longest; tail long, graduated; tarsus long and smooth; outer toe longer than the inner.

**587. *Suthora Humii*, Sharpe, Cat. B. Br. Mus. vii, p. 487.** Temnorhis v. pictifrons, *Hodgs., Icon. ined. in Br. Mus. Passeres*, pl. 65. *Suthora nipalensis* (non *Hodgs.*), *Gould, B. Asia* part iv. *Suthora poliotis* (non *Blyth*), *Horsf. and Moore, Cat. B. E. I. Co. Mus.* i. p. 370; *Jerd., B. Ind.* ii. p. 9; *Hume, Str. F.* 1879, p. 95.—The ORANGE-EARED TIT-THRUSH.

Above yellowish brown, paler on the head, but brighter and inclining to orange brown on the rump and upper tail coverts; tail feathers brown, margined with chestnut, deeper and more conspicuous near the base; wing coverts like the back, the outer greater coverts externally shaded with grey, the primary coverts black; quills blackish, externally golden chestnut, the outer primaries edged with white; over the eye a broad black band drawn from the bill to the sides of the occiput; feathers at base of bill and cheeks white, extending above and below the eye; ear coverts bright orange, surrounded by a wash of light ashy grey on the sides of the neck; throat blackish, the feathers edged with white; rest of under surface buffy white, the sides of the body tawny buff as well as the thighs and under tail coverts. Bill blackish; legs fleshy. (Sharpe.)

*Length*.—3·8 inches; wing 1·75; tail 2; tarsus 0·75; culmen 0·35.

*Hab*.—Eastern Himalayas, Nepaul and Sikkim.

**588. *Suthora poliotis***, *Blyth, J. A. S. B.* xx. p. 522. *Suthora muniurensis*, *Godw.-Aust. and Wald., Ibis*, 1875, p. 250; *Hume, Str. F.* 1876, p. 216; *id.*, *Str. F.* 1879, p. 95; *Sharpe, Cat. B. Br. Mus.* vii. p. 487. *Suthora daffaensis*, *Godw.-Aust., Ann. and Mag. Nat. Hist.* xvii. p. 32; *Hume, Str. F.* 1876, p. 489; *id.*, 1877, p. 138; *Godw.-Aust., J. A. S. B.* xlvii. p. 15.—The GREY-EARED TIT-THRUSH.

*Adult male*.—Similar to *S. Humii*, but distinguished at a glance by its grey ear coverts and by the very distinct white eyebrow which extends above the ear coverts.

*Length*.—3·75 inches; wing 1·75; tail 2; tarsus 0·7; culmen 0·3.

The adult female is similar, but has a wing of 1·85. (*Sharpe*.)

*Hab*.—Naga, Daffa and Muniपुर Hills.

**589. *Suthora nipalensis***, *Hodgs., Ind. Rev.* ii. p. 32; *Blyth, J. A. S. B.* xiv. p. 579; *Jerd., B. Ind.* ii. p. 5, No. 378; *Hume, Str. F.* 1879, p. 95; *Sharpe, Cat. B. Br. Mus.* vii. p. 489.—The BLACK-FRONTED TIT-THRUSH.

General colour above yellowish brown, brighter on the lower back; head greyish, washed with yellowish brown on the nape; forehead and a broad streak over the eye to the nape black; lores, sides of the face and feathers at base of lower mandible white; throat black; ear coverts and a spot behind the eye below the black streak bright fulvous; sides of the neck pure ashy; rest of under surface of the body bright golden buff; thighs fulvous; centre of abdomen white; upper and lower tail coverts orange chestnut; tail cinnamon brown, edged externally with rufous or orange chestnut, deeper near the tip; wing coverts like the back; primary coverts black, also the quills; primaries edged with white, golden chestnut at the base; secondaries broadly edged with golden chestnut, whitish near the tips; under wing coverts and edge of wing silky white. Bill black, bluish at base; legs fleshy white; irides brown.

*Length*.—4·2 to 4·5 inches; wing 1·8 to 2; tail 2·2 to 2·25; tarsus 0·7; culmen 0·3.

*Hab*.—Himalayas from Nepaul to Sikkim. Jerdon obtained a specimen at Darjeeling. It associates, according to Hodgson, in small flocks, frequenting brushwood and tall grass. Has the manners of a *Parus*.

**590. *Suthora ruficeps*** (*Blyth*), *Sharpe, Cat. B. Br. Mus.* vii. p. 491. *Paradoxornis ruficeps*, *Blyth, J. A. S. B.* xx. p. 177; *Gould, B. Asia*, pt. vi.; *Jerd., B. Ind.* ii. p. 5, No. 375; *Blyth and Walden, B. Burm.* p. 117; *Hume and Dav., Str. F.* 1878, p. 257; *Hume, Str. F.* 1879, p. 95;

*Oates, B. Br. Burm.* p. 139. *Heteromorpha ruficeps*, *Blyth, J. A. S. B.* xiv. p. 578.—The RED-HEADED FINCH-THRUSH.

Head, cheeks, ear coverts, nape and sides of the neck bright rufous, rest of the upper plumage olivaceous brown, the bastard wing and primary coverts washed with rufous; quills reddish brown or sandy buff, the primaries paler towards their ends; upper tail coverts tinged with rufous; tail like the back, the feathers with reddish shafts; entire under surface white, the breast and flanks washed with pale fulvous; under wing coverts and axillaries light yellowish buff. Bill with the upper mandible horny brown, the lower one pale yellowish; irides red brown; orbital skin pale blue.

*Length*.—7 to 7·5 inches; wing 3·45 to 3·5; tail 3·5; tarsus 1·15; culmen 0·6.

*Hab*.—Eastern Himalayas, extending into Burmah and Tennaserim. Recorded from Nepaul, Bhootan, Karennee and Darjeeling. Jerdon says it is found in the hilly regions of Nepaul and Sikkim, also on the Khasia hills, extending into Arrakan. He found it in dense bamboo jungle feeding on seeds, maize, rice, &c. Mr. Davison obtained it in Tennaserim.

**591. *Suthora gularis* (Gray), Sharpe, Cat. B. Br. Mus. vii. p. 492.** *Paradoxornis gularis*, Gray, *Gen. B.* ii. p. 389, pl. 94; *Gould, B. Asia*, part vi.; *Jerd. B. Ind.* ii. p. 5, No. 374; *Wald. in Bl. B. Burm.* p. 117; *Hume and Davison, Str. F.* vi. p. 257; *Hume, Str. F.* viii. p. 95; *Oates, B. Br. Burm.* i. p. 131.—The GREY-HEADED FINCH-THRUSH.

Forehead, chin and a streak running from above the eye to the nape black; lores, feathers round the eye and cheeks whitish; whole top of head and ear coverts grey; whole upper plumage ruddy brown; wings and tail brown, edged on the outer webs with ruddy brown; lower plumage white. Bill yellow; legs and feet plumbeous; claws pale; irides light brown.

*Length*.—6 inches; wing 3·4; tail 3·2; tarsus 0·95; culmen 0·5.

*Hab*.—Eastern Himalayas from Sikkim eastward into the hill ranges of N.-E. Bengal, and Burmah to Western Fokien in China. Not uncommon at Darjeeling and Sikkim.

It was obtained by Capt. Wardlaw-Ramsay in Karenne at an elevation of 5,600 feet. It has also been found in the hill tracts of Eastern Bengal, Bhootan and Sikkim.

**592. *Suthora unicolor* (Hodgs.), Sharpe, Cat. B. Br. Mus. vii. p. 493.** *Heteromorpha unicolor*, *Hodgs., Icon. in Br. Mus. Passeres*, pl. 264; *id.*, *J. A. S. B.* xii. p. 448; *Jerd., B. Ind.* ii. p. 6, No. 376; *Hume Str. F.* 1879, p. 95. *Paradoxornis unicolor*, Gray, *Cat. Mam., etc., Nepaul. pres.*; *Hodgs.* p. iii.; *Bp. Consp.* i. p. 500; (*Gould*), *B. Asia*, part vi.—The BROWN FINCH-THRUSH.

Above ashy olive brown, the head crested, dull, vinous brown; the quills brown; secondaries, and wing coverts like the back; the primaries tinged reddish brown; tail light fulvous brown, the feathers edged at the tips with whitish; sides of the crown with a black streak extending to the sides of the nape; ear coverts and sides of face vinous brown with paler tips to some of the feathers; throat and foreneck ashy brown, washed with vinous on the chin; rest of under surface of the body light, sleek, brown; axillaries like the breast; under wing coverts pale tawny buff. Bill orange yellow; legs slaty grey; irides brown.

*Length*.—7·2 to 7·75 inches; wing 3·65 to 3·8; tail 4·3; tarsus 1·2; culmen 0·6.

*Hab*.—Eastern Himalayas, Nepaul to Darjeeling and Sikkim. Jerdon says it is peculiar to the more elevated regions of Nepaul, living in thick brushwood in small flocks, frequently alighting on the ground and feeding on bugs and other insects.

#### Gen. *Chleuasicus*.—*Blyth*.

Characters the same as in *Suthora*, but the bill is shorter, wider and more tumid on the sides.

**593. *Chleuasicus ruficeps*, *Blyth*, *J. A. S. B.* xiv. p. 578; *Jerd.*, *B. Ind.* ii. p. 7, No. 377; *Hume*, *Str. F.* 1879, p. 95; *Var. atrosuperciliaris*, *Godwin-Aust.*, *J. A. S. B.* 1877, p. 147; *Hume*, *Str. F.* 1877, p. 499.—The RED-HEADED TIT-THRUSH.**

Head, which is much crested, and the hind neck, bright ferruginous or bright sandy rufous; a ring of buffy white feathers round the eye; wings brighter rufous than the back; tail brown with obsolete dusky barrings; entire under parts white with a very slight tinge of buffy. Bill whitish horny; legs greenish plumbeous; irides red brown.

*Length*.—5·5 to 6·5 inches; wing 2·95; tail 3·1; tarsus 0·95; culmen 0·6.

*Hab*.—Eastern Himalayas, extending into Assam and N. Cachar. As yet only obtained at Darjeeling and Sikkim.

**594. *Chleuasicus fulvifrons*, *Hodgs.*, *Icon. ined. in Br. Mus. Passeres*, pl. 109; *Sharpe*, *Cat. B. Br. Mus.* p. 495. *Suthora fulvifrons*, *Blyth*, *J. A. S. B.* xiv. p. 579; *Jerd.*, *B. Ind.* ii. p. 9, No. 380.—The FULVOUS-FRONTED TIT-THRUSH.**

Crown of the head, cheeks, throat and breast tawny buff, the forehead and chin slightly deeper; wing coverts like the back, the greater series edged like the quills with golden buff; tail ashy brown margined with the same golden buff; sides of body light grey; abdomen whitish; under tail coverts buffy white.

*Length*.—5 inches; wing 2·25; tail 2·7; tarsus 0·8.

*Hab*.—Nepaul and Darjeeling.

Gen. **Paradoxornis**.—Gould.

Bill short, as high at the base as long; culmen curved, compressed on the sides, blunt and *sinuated on the margin*; nostrils small, concealed by hair-like feathers; rictal bristles scanty; wings rounded, the 6th quill longest; tail long and graduated; legs stout; *tarsus entire*; hind toe and claw large; plumage soft and lax.

**595. *Paradoxornis flavus***, *ustris*, Gould, *P. Z. S.* 1836, p. 17; *id.*, *Icones Avium*, pl. 6; McClell., *P. Z. S.* 1839, p. 164; Gray, *Gen. B.* ii. p. 389; Blyth, *J. A. S. B.* xiv. p. 578; Jerd., *B. Ind.* ii. p. 4, No. 373; Hume, *Str. F.* 1874, p. 457; *id.*, *Str. F.* 1879, p. 95.—The YELLOW-BILLED FINCH-THRUSH.

*Adult* (type of species).—Above fulvescent olive brown, a little lighter on the rump; wing coverts brown, margined with fulvous brown, the outer lesser coverts entirely fulvous or slightly rufescent; quills brown, externally rufous brown, lighter on the outer webs of the primaries; tail feathers brown, slightly edged with fulvous brown; entire head and neck rufous; lores, as well as a spot above the eye, forepart of ear coverts, feathers below the eye and cheeks white, barred with dusky blackish at the tips of the feathers; hinder part of ear coverts jet black, forming a large patch; chin black; remainder of throat white, broadly barred at the tip with black; foreneck entirely blackish; remainder of under surface pale yellowish buff, including the thighs and under tail coverts; legs plumbeous; irides red brown. Bill bright yellow.

*Length*.—7.5 inches; wing 3.4; tail 3.9; tarsus 1.2; culmen 0.75.

*Hab.*—Hills of N.-E. Bengal and Assam, ranging into the Sikkim and Nepaul Terai. Jerdon procured it on the Khasia hills at an elevation of about 5,000 feet. He adds that there were three young birds in company with the parents, and that the one young bird he shot resembled the birds in plumage. McClelland's specimen was obtained in Assam, and Hodgson got his specimens in the Sikkim Terai and Nepaul.

**596. *Paradoxornis guttaticollis***, A. David, *N. Arch. Mus.* vii.; Sharpe, *Cat. B. Br. Mus.* vii. p. 497. *Paradoxornis Austeni*, Gould, *B. Asia*, part xxvi.; Godw.-Aust., *J. A. S. B.* xliii. p. 159; Hume, *Str. F.* 1875, p. 392; 1879, p. 95.—The SPOTTED-NECKED FINCH-THRUSH.

Head and hind neck light rufous; lores and feathers below the eye white, the feathers with dusky bases; ear coverts black; throat with some large blackish spots; upper surface of body sandy brown; the wings like the back but more rufous; quills dark brown, their outer webs sandy rufous; under surface of body whitish, washed with pale sandy buff on the throat, sides of the body and breast, as well as the under tail coverts; thighs dusky fulvous. Bill yellow; feet greenish; irides chestnut rufous.

*Length*.—6 inches; wing 3.05; tail 3.2; tarsus 1.05; culmen 0.6.

*Hab.*—Naga Hills. Nothing is known of its habits. There is only a single skin in the British Museum Collection.

## GROUP.—TIMELIÆ.

This group contains chiefly the Wren, grass, tree, ground and thrush Babblers, which are considered to be the most typical of the *Timeliinæ*, and closely affined by their general appearance to the *Muscicapinæ*. They vary much in the form of their bills, some having it long, slender, and much bent downwards at the tip, others more arched and notched; others again broader and with the tip but slightly bent downwards. The plumage of the group is generally of a sombre tint; the head is either crested, or subcrested, and in some not crested. The wing is either equal to, or longer than, the tail, and very seldom shorter than it, which again is in most of the families graduated. Their habits, too, are various.

Gen. *Timelia*.—Horsf.

Bill strong, deep, much compressed and curved throughout, its length being nearly that of the tarsus; nostrils oval, apert; rictal bristles well developed; tail strongly graduated; wing short and rounded; 5th and 6th quills generally the longest; tarsi stout; hind toe and claw large, both together exceeding the length of the bill.

**597. *Timelia pileata*, Horsf. Trans. Linn. Soc. xiii. p. 151; id., Zool. Res. Java, pl. 43, fig. 1; Jerd., B. Ind. ii. p. 24; Hume, Nests and Eggs, Ind. B. p. 246; id., Str. F. iii. p. 118; Oates, Str. F. v. p. 152; Anders., Yunnan Exp. p. 634; Hume and Dav., Str. F. vi. p. 267; Sharpe, Cat. B. Br. Mus. viii. p. 507; Oates, Br. Burm. i. p. 45. *Timelia Jerdoni*, Wald., Ann. and Mag. Nat. Hist. (Ser. 4) x. p. 61; Bl. and Wald., B. Burm. p. 114; Hume, Str. F. 1875, p. 119. *Timalia bengalensis*, Godw.-Aust., J. A. S. B. xli. pl. ii. p. 143; Hume, Str. F. viii. p. 95.—The RED-CAPPED GRASS-BABBLER.**

Forehead and supercilium white; lores, a narrow line separating the chestnut of the crown, and feathers between the nostrils and eye, black; crown of the head chestnut; upper plumage, including the wing coverts, from olive to fulvous brown; quills light brown, externally fulvous brown; tail the same, but faintly cross-barred under certain lights; chin, cheeks, throat and ear coverts pure white; sides of the neck ashy grey, also the sides of breast and nape; all the feathers of these parts, also the throat, with mesial black shaft streaks; neck and upper breast white, the feathers black shafted; lower breast, abdomen, sides and under tail and wing coverts fulvous brown, nearly ferruginous; the sides a little darker; axillaries light fulvous brown; under wing coverts pale tawny buff. Bill black; irides dark red; eyelids dark bluish grey; legs purplish brown.

*Length*.—5·8 to 6·8 inches; wing 2·5; tail 2·85 to 3·2; culmen 0·7; tarsus 0·95.



*Hab.*—The lower hills of Nepaul and Sikkim, throughout the plains of Eastern Bengal, Burmah and the Malay Peninsula (rare), and Java. It has been procured in Cachar and the Sundurbuns, also in Cochin-China. Oates says it is a common species all over Burmah and Pegu, and that it frequents secondary jungle and gardens, especially in the southern parts. In the plains it is common to a remarkable degree. It is a bright and cheerful bird, and is always on the move. It is most abundant in the grass jungles of Purneah, Sylhet and Cachar. Horsfield (in Jerd.) says it is common in Java, in groves and woods, constructs its nests in hedges, and is one of the social birds, which delight to dwell in the neighbourhood of cultivation. It has, he says, a pleasant note, which consists of a slow repetition of the five notes of the diatonic scale (C, D, E, F, G), with perfect regularity and at small intervals of time.

Its nest has been found during May and June, and is a domed structure made of grass. Oates says it is either placed on the ground or in the fork of a bush close to it. Eggs, three in number, white, speckled with brown.

**598. *Timelia longirostris* (Moore), Sharpe, Cat. B. Br. Mus.** vii. p. 509. *Pyctorhis longirostris*, Moore, *P. Z. S.* 1854, p. 104; Jerd., *B. Ind.* ii. p. 16, No. 386. *Malacocercus rubiginosus*, Godw.-Aust., *P. Z. S.* 1874, p. 47; *id.*, *J. A. S. B.* xliii. pt. ii. p. 164, pl. v.; Hume, *Str. F.* 1879, p. 397. *Pyctorhis longirostris*, Hume, *Str. F.* 1879, p. 95.—The LARGER YELLOW-EYED BABBLER.

Head dull rufous brown; rest of upper parts deep rufous brown, the lower back and rump slightly paler; wing coverts like the back; quills dusky, the primaries light rufous on their outer webs; tail feathers dull rufous brown; lores, eyebrow and ear coverts pale tawny buff; feathers round the eye, fore-cheeks, below the eye and throat white; under surface buffish white; the flanks, thighs and under tail coverts, also the under wing coverts, tawny buff. Bill black; legs pale fleshy; irides nearly white.

*Length.*—7·9 to 8 inches; wing 2·75 to 2·8; tail 4·4; tarsus 1·1; culmen 0·85.

*Hab.*—Oude to Bhootan, the hills of Munipur and Khasia, also Cachar. It is common about Nepaul and the country below the Himalayas.

### Gen. *Pyctorhis*.—Hodgs.

Bill rather short, strong and deep; rictus bristled; orbits nude; 4th and 5th quills longest.

**599. *Pyctorhis sinensis*, (Gm.), Jerd. *B. Ind.* ii. p. 15, No. 385; Beavan, *Ibis*, 1867, p. 431; Stol., *J. A. S. B.* xxxvii. pt. 2, p. 36; Blanford, *t. c.* xl. p. 273; Godw.-Aust., *J. A. S. B.* xliii. pt. 2, p. 160; Hume,**

*Nests and Eggs, Ind. B.* p. 237; *id.*, *Str. F.* 1873, p. 179; *Ball, Str. F.* 1874, p. 408; *Hume, t. c.* p. 475; *id.*, *Str. F.* 1875, p. 115; 1876, p. 34; *Fairb. t. c.* pp. 258, 265; *Blyth and Wald., B. Burm.* p. 117; *Murray, Vert. Zool. Sind*, p. 132; *Oates, B. Br. Burm. i.* p. 46; *Sharpe, Cat. B. Br. Mus.* vii. p. 510. *Timelia hypoleuca, Frankl., P. Z. S.* 1831, p. 118. *Chrysomma sinense, Blyth, J. A. S. B.* xvi. p. 454.—The YELLOW-EYED BABBLER.

Above reddish brown, darker on the head, and rufous on the wings; inner webs of primaries and secondaries dusky; tail dull brown, with very indistinct or nearly obsolete dusky cross bands; a stripe from the nostrils through the eye; chin, throat, and entire under surface white; bill black, the base at the nostrils yellow; legs yellow; irides yellow brown; orbits orange.

*Length.*—6·25 to 6·5 inches; wing 2·75; tail 3·5; bill at front 0·5.

*Hab.*—India generally, extending to Nepal and Burmah. Common in Bengal, N.-W. Provinces, Punjab and Sind; also in Kutch, Kattiawar, N. Guzerat, Jodhpore and the Deccan. Occurs also in Upper Pegu, Ceylon and Southern India. In Sind it is as in other parts of India a resident, and breeds in July and August. The nest is typically cone-shaped (apex downwards), from 5 to 6 inches in depth and 3 or 4 in diameter at the base, the cone sometimes or rather often truncated according to the situation of the nest. The base of the cone is uppermost, and in it is the egg cavity. The whole structure is compactly woven with blades of grass and strips of fibrous bark, and more or less coated exteriorly with cobwebs. The number of eggs is from 2 to 3. They vary a good deal in shape and size, as well as in colouring. Eggs usually two, and sometimes three in number, prettily marked on a dusky or pinkish ground with streaks, spots and blotches of a brick red and brown colour. Affects chiefly the low tamarisk jungle, in which it also builds its nest. Oates says that in Burmah it affects grass jungle of all description, and is much more common in such situations. Though it creeps through grass without very perceptibly moving it, its pleasant and oft-repeated notes are sufficient to show its whereabouts.

**600. *Pyctorhis altirostris* (Jerd.), *Godw.-Aust., J. A. S. B.* xlv. pt. 2, p. 197, pl. ix.; *Blanf., Str. F.* 1877, p. 225; *Oates, Str. F.* 1877, p. 249; *Hume, t. c.* p. 329; *Godw.-Aust., J. A. S. B.* xlvii. pt. 2, p. 24; *Hume, Str. F.* 1879, p. 95; *Oates, Str. F.* 1880, p. 200; *id. B. Br. Burm.* p. 47; *Sharpe, Cat. B. Br. Mus.* vii. p. 512. *Chrysomma altirostris, Jerd., Ibis*, 1862, p. 22; *Godw.-Aust. Ann. and Mag. Nat. Hist.* xvii. p. 34; *Hume, Str. F.* 1876, p. 505. *Pyctorhis griseigularis, Hume, Str. F.* 1877, p. 116; *id., Str. F.* 1879, p. 95.—JERDON'S GRASS-BABBLER.**

Upper plumage, including the cheeks and ear coverts, also the wing coverts, uniform reddish or fulvescent brown; forehead and crown bright rufous brown, the feathers of the forehead centred slightly darker; chin, throat and upper

breast greyish white; lores and a streak over the eye dirty white, the centre of each feather black; quills brown, their outer webs broadly edged with reddish brown, the inner secondaries almost entirely reddish brown; tail brown, broadly edged with rufous on their outer webs and narrowly on their inner, all the feathers indistinctly cross-rayed; under surface of body from the breast to the vent a warm buff; the feathers of the chin with mesial black shaft streaks; under wing coverts tawny buff washed with rufous. Upper mandible pale horn colour; lower pinkish flesh colour; iris hazel brown; eyelids and orbital skin greenish yellow; legs and feet pinkish brown; claws pinkish horn colour.

*Length*.—6·2 to 6·5 inches; wing 2·4 to 2·5; tarsus 0·9; bill from gape 0·55.

*Hab.*—Burmah and Pegu, ranging through the low Assam country to the Bhootan Doors, and westwards into Sind.

Jerdon's Grass Babbler was first discovered at Thayetmyo. It has since been found abundantly in the Rangoon and Shwaygheen districts from the village of Wan, along the Pegu canal and northwards nearly up to Tonghoo. Colonel Godwin-Austen got it in the Eastern Bengal hill tracts, and Mr. Mandelli in the Bhootan Doors. It is common in Sind in grassy situations along the river bank about Sehwan and Sukkur. Its habits are not unlike those of *P. sinensis*, but it does not seem to affect tamarisk or other jungle bush. Oates says he has not seen it in tree or bush jungle.

#### Gen. *Dumetia*.—*Blyth*.

Bill moderate, rather compressed, pointed, and *with a subterminal notch*; culmen slightly curving from the base; rectal bristles small and few; wings short and rounded; 4th, 5th and 6th quills nearly equal; tail moderate; tarsus stout. *Frontal feathers stiff, with rigid shafts*.

**601. *Dumetia albigularis*, Blyth, J. A. S. B. xvi. p. 453; id., Cat. B. Mus. As. Soc. p. 140; Layard, Ann. and Mag. Nat. Hist. xii. p. 272; Gould, B. Asia, part 12; Jerd., B. Ind. ii. p. 26, No. 398; Hume, Nests and Eggs, Ind. B. ii. p. 247; Butler, Str. F. 1875, p. 471; Fairb., Str. F. 1876, pp. 258, 265; Bourdillon, t. c. p. 399; Butler, Str. F. 1878, p. 94; Legge, B. Ceylon, p. 505; Hume, Str. F. 1879, p. 96; Vidal, Str. F. 1880, p. 63; Sharpe, Cat. B. Br. Mus. vii. p. 514.**—THE WHITE-THROATED WREN-BABBLER.

Above ashy olive brown, slightly more fulvescent on the rump, the feathers of the back, also of the lesser and median wing coverts, with pale shaft lines; greater coverts and quills light brown, edged with ashy olive brown, a little darker on the outer webs of the primaries; tail light brown, the feathers indistinctly cross-rayed under certain lights, shaded with ashy, and tipped with a

narrow edging of whity brown; feathers of the crown stiffened; forehead rufescent, with blackish shafts; lores and eyelids whitish; ear coverts olivaceous ashy; cheeks and under surface of body bright sienna buff; throat, centre of breast and abdomen white; thighs more fulvous; axillaries sienna buff with white bases; under wing coverts bright sienna buff; irides greenish white or white; upper mandible dusky or pinkish brown with fleshy margins; lower mandible fleshy, the tip dusky; legs and feet reddish dusky.

*Length*.—5·7 to 5·9 inches; wing 2·15; tail 2·45; tarsus 0·8; culmen 0·6.

*Hab*.—The peninsula of India, ranging from Travancore along the West Coast as high as Khandeish, and occurring again on Mount Abu.

In Ceylon it is said to be found all over the low country in all parts of the island. It affects bushy jungle, ravines, thick hedge-rows, &c., and is usually found in small parties skulking along one after the other, under and through from bush to bush, not unlike species of *Malacocercus*. It feeds on small insects. Breeds during June. Hume in his *Nests and Eggs* has an account of its nesting from Miss Cockburn of Kotagherry. The nest was constructed on a coffee-tree and contained three eggs, which were white and profusely covered with reddish spots of all sizes. The nest was small and nearly globular, and constructed of broad flaggy grass, without any lining or admixture of other material. In shape, Mr. Hume says, the eggs are moderately elongated ovals. The shell is very fine and smooth, and has, in some, a rather bright gloss. In length the eggs vary from 0·7 to 0·75 inches and in breadth from 0·5 to 0·53.

**602. *Dumetia hyperythra* (Franklin), Blyth, Cat. B. Mus. As. Soc. p. 140; Ferd., B. Ind. ii. p. 26, No. 397; Gould, B. Asia. pt. 12; Blanf., J. A. S. B. xi. p. 273; Hume, Nests and Eggs, Ind. B. p. 246; Ball, Str. F. 1874, p. 409; Hume, Str. F. 1879, p. 96; Butler, Str. F. 1880, p. 399; id., Cat. B. S. B. Pres. p. 42; Sharpe, Cat. B. Br. Mus. vii. p. 515. *Timelia hyperythra*, Franklin, P. Z. S. 1831, p. 118. *Pellorneum hyperythrum*, Blyth, J. A. S. B. xxi. p. 357.**—The RUFOUS-BELLIED BABBLER.

Crown of the head and upper back ashy olive brown, the forepart of crown ferruginous, the feathers with stiff shafts and blackish shaft streaks; the lower back and rump rather fulvescent, the mantle with dusky brown shaft streaks; wing coverts like the back; the greater series and quills margined on their outer webs with fulvescent brown; upper tail coverts and tail ashy brown, faintly cross-barred under certain lights; lores and feathers round the eye whitish; sides of face, ear coverts and under surface of the body sienna buff; the cheeks and throat somewhat rufescent and with paler shaft lines; under wing coverts and axillaries like the breast. Bill horny; legs fleshy yellow; irides pale yellowish-brown.

*Length*.—5·4 to 5·8 inches; wing 2·2; tail 2·4; tarsus 0·8; culmen 0·55.

*Hab.*—The Central Provinces of the Indian peninsula, from the Midnapoor jungles westwards to Nagpore, and south to the Godavery Valley. Hume adds Chota Nagpore, Upper Bengal, eastern portions of the N.-W. Provinces, parts of Oudh, and even in the low valleys of Kumaon.

Its occurrence in the Konkan is doubtful, where, I think with Sharpe, *albigularis* only occurs. The bird is very common on the Shevaroy Hills, and may always be met with where there are clumps of grass, which is used for thatching houses in those parts. Mr. W. Mahon Daly writes to say that he had taken its nest very frequently, and always found four eggs, white and very thickly spotted with reddish brown; they are about the size of those of the White-eyed Tit. It breeds there in April and May, and makes its nest of thick blades of grass, covered in, with an entrance hole in the side. The nest is generally placed in a date bush or in a clump of grass, and never more than a foot or two feet from the ground. It is not a shy bird. It returned to its nest after two eggs had been taken out of the four. He tried to rear the young, but always failed, as they seem to feed entirely on small insects.

Eggs taken 23rd May 1885 and 12th April 1886.

It breeds from June to August, building a globular nest of broad grass blades or bamboo leaves, and placing it among dead leaves on the ground or not very high from the ground in a small shrub. Eggs 2—4 in number, and, according to Hume, short, broad ovals, very slightly compressed towards one end. Ground colour white or pinkish white, streaked, spotted and speckled most thickly at the large end and thinly towards the small end, with shades of red, brownish-red and reddish purple, varying much in different examples. Some are said to be miniatures of some types of *Pyciorhis sinensis*. In length they vary from 0·63 to 0·7, and in breadth from 0·5 to 0·56.

#### Gen. *Pellorneum*.—*Sws.*

Bill moderately long, straight, compressed, very slightly hooked at the tip and notched, the distance between the front of the nostril and tip of the bill more than the length of the hind toe without claw; rictal bristles feeble; wing rounded, the 5th, 6th and 7th quills nearly equal; tail moderate, rounded, less graduated than in *Dumetia*; the distance between the tip of the outer feather and tip of the middle feather less than the length of the tarsus; tarsus moderate, with four distinct scutes; feet large; mid-toe lengthened.

**603. *Pellorneum nipalense*** (*Hodgs.*), *Hume, Str. F.* 1879, p. 96; *id. Str. F.* 1880, p. 250; *Sharpe, Cat. B. Br. Mus.* vii. p. 519. Hemipteron *nipalense*, *Hodgs., Icon. ined. Br. Mus. Passeres*, pl. 170, fig. i. *Pellorneum ruficeps* (*non Swains.*), *Gray, Cat. Mam., etc., Nepaul*; *Hume, Str. F.* 1873, p. 403. *Pellorneum mandellii*, *Pr. As. Soc. Beng.* p. 215; *Hume, Str. F.* 1873, p. 298, note. *Pellorneum pectoralis*, *Godw.-Aust., J. A. S. B.* xlii. pt. 2, p. 41.—THE NEPAULESE SPOTTED WREN-BABBLER.

Above dark olive brown; wing coverts like the back with pale shaft lines to the lesser and median series; the greater coverts with narrow fulvescent margins; quills sepia brown, olive brown on their external margins, and rather ashy on the outer webs of the primaries; tail dark olive brown, the tips of the feathers narrowly fringed with whitish; head and nape dull rufous brown with dull fulvous shaft stripes; *centre of the feathers of the forehead, hind neck and mantle black; of the sides of the neck streaked with brown and whitish*; lores and eyebrow ashy white, the feathers tipped with minute spots of dark brown; ear coverts rufescent brown; under surface of the body ochraceous buff; the feathers mesially streaked with dark brown; throat and centre of abdomen creamy white; under tail coverts brown, edged with whitish.

*Length*.—6·6 to 6·7 inches; wing 2·75; tail 2·75; tarsus 1·05; culmen 0·75.

*Hab.*—Nepaul and Sikkim on the lower hills, extending to the Bhootani Dooars and the Khasia Hills. According to Hodgson it begins to lay in April. The nest is more or less oval or globular, and is laid lengthwise on the ground in some bush or clump of rush or reed. It is composed of moss, dry leaves and vegetable fibres and lined with moss roots. A nest measured by Mr. Hodgson was 6·75 inches in length and 3 inches in height. The aperture was at one end, and about 2 inches in diameter; the cavity was about 2·5 inches in diameter and nearly 4 inches deep. The eggs are three or four in number, and are figured as broad ovals, pointed towards the small end, measuring about 0·86 × 0·65, and having a greyish white ground thickly speckled and spotted with more or less bright red or brownish red, and most thickly so at the large end where the markings are nearly confluent. According to Hume, a nest said to be of this species was found near Darjeeling in July, at an elevation of 4,000 feet. The eggs in this nest were three in number, very regular, moderately broad ovals; the shell fine and compact with a slight gloss. The colour white, everywhere very finely speckled with chocolate or purplish brown, the markings being more confluent and dense at the large end. They measured 0·86 × 0·66.

**604. *Pellorneum intermedium*, Sharpe, Cat. B. Br. Mus. vii. p. 519, plate xii., fig. 1; Oates, B. Br. Burm. i. p. 67.—SHARPE'S STRIATED GROUND-BABBLER.**

*Adult female*.—Similar to *P. nipalense*, but smaller and having *the eyebrow light tawny or creamy buff and unspotted*; lores streaked with blackish shaft lines; breast streaked with brownish, but not extending beyond the middle of it.

*Length*.—6·1 inches; culmen 0·7; wing 2·55; tail 2·5; tarsus 1.

Sharpe describes the young as rufescent brown, rather more olive on the wings and tail; head slightly more rufous than the body, with narrow fulvous shaft streaks; sides of face tawny; under surface of body white, washed with tawny buff on the breast, sides of body, flanks and thighs.

*Hab.*—From Cachar to the neighbourhood of Thayetmyo. The specimens in the British Museum are from Dilkoocha, Cachar.

**605. Pellorneum ruficeps.** *Swains, Faun. Bor. Amer. Birds*, p. 487; *Blyth, J. A. S. B.* xi. p. 883; *Bp. Consp.* i. p. 219; *Horaf. and Moore, Cat. B. Br. Mus.* i. p. 224; *Jerd. B. Ind.* ii. p. 27, No. 399; *Ball, Str. F.* 1874, p. 409; *Fairbk. Str. F.* 1876, p. 258; *Bourd., t. c.* p. 399; *Fairbk. Str. F.* 1877, p. 404; *Hume, Str. F.* 1878, i. p. 277; *Ball, Str. F.* 1878, p. 214; *Hume, Str. F.* 1879, p. 96; *Vidal, Str. F.* 1880, p. 63; *Buller, t. c.* p. 400; *Sharpe, Cat. B. Br. Mus.* vii. p. 520.—**THE SPOTTED WREN-BABBLER.**

Head and nape dull rufous with fulvescent mesial shaft streaks, more distinct on the forehead; lores, supercilium extending to the sides of the nape and feathers round the eye ochraceous or vinous buff; the feathers of the superciliary streak tipped with black only just above the eye, a dusky spot in front of the eye; ear coverts dusky white, with fulvous shaft streaks; entire throat and cheeks buffy white, the latter with dusky hair-like streaks; the foreneck and breast ochraceous buff, streaked with dark brown; rest of under surface of body plain ochraceous buff, except the centre of the abdomen, which is whitish, and the sides of the body olive brown margined with ochraceous buff; under tail coverts whitish with dusky brown centres; axillaries, under wing coverts and thighs rufescent ochre; upper parts dull olive brown; the lower back and rump more uniform and without olive margins as on the mantle and upper back; upper tail coverts the same; wing coverts like the back with paler shaft lines; quills dusky brown, the outer margins olive brown; tail uniform ashy brown, slightly olive on the edges. Bill horny above, yellowish fleshy beneath; legs fleshy yellow; irides brick-red.

*Length.*—6·9 to 7·0 inches; wing 2·8 to 3; tail 2·65 to 3; tarsus 1·1.

*Hab.*—The hills of Southern India (Nilghiris), Matheran, and Mahableswar in the Concan and Deccan, also on the west coast and Madras to the east, occurring also in the Rajmehal Hills and in Maunbhoom. Jerdon says it occurs also in Central India, the S.-E. Himalayas, the Khasia Hills, and through Burmah to Tenasserim, but of this extensive range there is some doubt. He adds that it associates in small flocks, frequenting underwood and thickets in forest jungle, often descending to the ground, where it hops about in search of insects. It keeps up a continual chattering, and occasionally one of them, perched on a bough, elevating the head and neck, gives utterance to a sort of crowing laugh, not unlike that of *Trochalopteryx cacchianus*. Mr. W. Mahon Daly says the bird is rather rare on the Shevaroyas, and is very shy. It generally frequents streams and thick scrub jungle. He only once saw it on a path from the coffee plantation to his bungalow—it was building a nest on an orange tree. He removed one of the two eggs, but the bird never returned.

The eggs, two in number, are pinkish white, handsomely spotted and streaked with reddish brown. Nest is made exactly like that of *Otocompsa emeria*, and generally placed about four feet from the ground. He has taken its nest in March as well as in November, and has never seen it in the low country around Salem.

Hume, in his *Nests and Eggs of Indian Birds*, quotes Miss Cockburn, who writes from Kotagherry to the effect that the species is exceedingly shy, and that three nests were found in the months of March and April. The description and situation of the nests are the same nearly as those of other species of the genus. The number of eggs was three; one which Mr. Hume received, he says, was a moderately broad oval; the ground colour a slightly greenish white, and the whole surface of the egg excessively finely freckled, and speckled with black or pale purplish grey, and a more or less rufous brown. It measured  $0\cdot88 \times 0\cdot65$ .

**606. Pellorneum subochraceum**, Swinh., *Ann. and Mag. Nat. Hist.* (4) vii. p. 257; *Blansf. Str. F.* 1872, p. 87; *Yerd., Ibis*, 1872, p. 300; *Tweed., Ibis*, 1877, pp. 38c-452, pl. x.; *Hume and Davidson, Str. F.* 1878, pp. 278, 514; *Hume, Str. F.* 1879, pp. 61-96; *Bingham, Str. F.* 1880, p. 180; *Sharpe, Cat. B. Br. Mus.* vii. p. 521. *Pellorneum Tickelli*, *Blansf., Ibis*, 1872, p. 87 (*nec Blyth*); *Wald. in Blyth's B. Burm.* p. 115. *Pellorneum minor*, *Hume, Str. F.* 1873, p. 298; *Oates, Str. F.* 1875, p. 120; *Hume, t. c.* p. 121; *Blyth, and Wald., B. Burm.* p. 114; *Oates, Str. F.* 1877, p. 154. *Pellorneum ruficeps* (*non Sykes*), *Blyth, B. Burm.* p. 114.—THE BURMESE STRIATED GROUND-BABBLER.

*Entire head above to the nape bright chestnut*, the feathers of the forehead with mesial black shaft streaks; lores fulvous white, the feathers also dark shafted; superciliary stripe reaching to the nape creamy buff, a few feathers just over the eye tipped with black; feathers under the eye, also the ear coverts, fulvous, *the latter washed with dusky olive on their hind margin*; cheeks the same; chin and throat pure white; sides of the neck slightly streaked with ashy olive margins to the feathers; under surface of the body light fulvous or ochraceous buff, the feathers of the breast and sides of the body with a central narrow streak of brown, narrower on the breast than on the sides; middle of abdomen spotless; under tail coverts fulvous, with large central streaks of brown; axillaries and under wing coverts light tawny buff; upper plumage, including the wings and tail, olive brown; the outer webs of the primaries lighter and tinged with ochraceous; upper tail coverts tinged with rufous; tail barred across under certain lights and narrowly fringed with fulvous at the tip; upper mandible dark brown, the lower yellow at base, changing to light brown at the tip; eyelids greenish; legs light brownish yellow.

*Length*.—6·5 inches; wing 2·55 to 2·6; tail 2·45 to 2·7; tarsus 0·95 to 1·0; culmen 0·7.



*Hab.*—The whole of the Burmese province, extending over the whole of Pegu and ranging through Tenasserim to the Malay peninsula as far as Tonka. Dr. Tiraud records it from Cochin-China. According to Oates, it is found in every description of jungle, in gardens, orchards and compounds. It keeps entirely to the ground and feeds on various insects. It nests during May and June, making a domed structure of dry bamboo leaves, lined with grass and fine roots. It is always placed on the ground, and half the nest is often embedded in dead leaves accumulated on the ground. Eggs three in number, white, and speckled with reddish brown and purple.

**607. *Pellorneum palustre*, Gould, *B. Asia*, part xxiv. (1872, *en Ferd. MSS.*); *Hume, Str. F.* 1873, p. 4; *id. Str. F.* 1879, p. 96; *Ferd., Ibis*, 1872, p. 300; *Blansf., Ibis*, 1873, p. 215; *Sharpe, Cat. B. Br. Mus.* vii. p. 522; *Oates, B. Br. Burm.* i. p. 68.—THE ASSAM GROUND-BABBLER.**

Uniform dark olive brown above, including the wing coverts; quills dusky brown, edged with dark olive brown; upper tail coverts and tail a little darker brown; a streak across the forehead and a streak above the lores to above the eye light rufous; lores white, also the cheek, which is washed with fulvous and tipped with blackish brown, the hinder portion being deep ochraceous buff; throat and centre of abdomen white; foreneck and breast white, washed with ochraceous, and broadly streaked with brown; sides of the body rich ochraceous buff, also streaked with brown; thighs and under tail coverts rich fawn brown; under wing coverts and axillaries the same. (*Sharpe.*)

*Length.*—5·7 inches; wing 2·35; tail 2·65; tarsus 0·95; culmen 0·6. (*Mus. R. G. Wardlaw-Ramsay.*) (*Sharpe.*)

*Hab.*—Assam and the foot of the Khasia Hills. Nothing is known of its nidification.

#### † Gen. **Stachyris**.—*Hodgs.*

Bill somewhat long, much curved, higher than broad at nostrils; cutting edge of mandible decurved or faintly notched at the tip; rictal bristles small, not very evident; nostrils nearly concealed; wing short, rounded; the 5th, 6th and 7th quills equal and longest; tail shorter than the wing, slightly graduated; tarsus moderately long; lateral toes nearly equal; claws moderately curved; head with a semi-crest, divergent feathers, or crested.

**608. *Stachyris nigriceps*, *Hodgs., Icon. ined in Br. Mus. Passeres, App. Pl.* 87; *id., J. A. S. B.* xiii. p. 378; *Blyth, Cat. B. Mus. As. Soc.* p. 150; *Bp. Consp.* i. p. 332; *Ferd., B. Ind.* ii. p. 21, No. 391; *Godwin-Austen, J. A. S. B.* xxxix p. 103; *Hume, Nests and Eggs, Ind. B.* p. 242; *Blyth and Wald., B. Burm.* p. 116; *Hume and Oates, Str. F.* 1876, p. 117; *Oates, Str. F.* 1877, p. 152; *Anders., Zool. Yunnan*, p. 636; *Hume and Dav.,***

*Str. F.* 1878, pp. 264, 265; *Hume. Str. F.* 1879, p. 95; *Oates, B. Br. Burm.* i. p. 48; *Sharpe, Cat. B. Br. Mus.* vii. p. 532.—The BLACK-THROATED TREE-WARBLER.

Top of the head from the bill to the nape blackish, each feather edged with hoary white; a small circle round the eye, also the chin and throat, white, the latter of a smoky colour; cheeks pure white; ear coverts reddish brown, separated from the white cheek by a line of black; centre of throat blackish; sides of the neck and the whole of the lower plumage fulvous or light orange rufous, paler on the centre of the abdomen; sides of the body, thighs and under tail coverts brown; the breast with or without faint indications of whitish streaks; under wing coverts and axillaries fulvous; upper surface of the body, including the wing coverts, outer webs of the quills and tail rufescent olive brown, the latter obsoletely barred with dusky under certain lights; inner webs of quills plain brown. Bill bluish black above, paler on the lower mandible; iris orange-brown; legs pale dusky green.

*Length.*—5 to 5·5 inches; wing 2·2 to 2·3; tail 2·0; tarsus 0·85; culmen 0·7.

*Hab.*—Eastern Himalayas from Nepal to Bhootan, and thence through the Khasia hills and Burmese ranges to Tenasserim. According to Jerdon it is very common about Darjeeling from 5,000 feet to nearly 10,000 in summer. It is quite arboreal, hunting among the upper foliage and flowers of trees either singly or in small parties. It is common at Sikkim, also in the evergreen forests of the Pegu Hills on the eastern spurs. Blyth gives it from Arrakan, and it is said to occur on the hills east of Bhamo, in Cachar and the hill tracts of Eastern Bengal. It nests at the beginning of April and during May, making a large deep cup-shaped structure either upon the ground or near the ground in the midst of grass. Eggs, 3—4 in number, broad ovals, somewhat compressed at one end, pure white and spotless. They vary from 0·73 to 0·84 in length, and from 0·56 to 0·61 in breadth.

**609. *Stachyris guttata* (Blyth),** *Oates, Str. F.* 1877, p. 251; *id., B. Br. Burm.* i. p. 49; *Sharpe, Cat. B. Br. Mus.* vii. p. 535. *Turdinus guttatus*, *Blyth, J. A. S. B.* xxviii. p. 414; *Tick. t. c.* p. 450; *Blyth, B. Burm.* p. 116; *Wald, Ibis*, 1876, p. 353; *Hume, and Dav. Str. F.* 1878, p. 264; *Hume, Str. F.* 1879, p. 95; *Bingham, Str. F.* 1880, p. 179.—The SPOTTED TREE-WARBLER.

Lores and forehead varied with mottlings of black and white, the shafts and a portion of the web being black; a line beginning at the anterior corner of the eye, passing over the ear coverts, thence widening so as to occupy the whole of the sides and back of the neck black, each feather marked with an elongate oval white spot in the middle; cheeks black, the hinder portion orange-chestnut; throat white; upper plumage rufescent brown, with small triangular spots

at the ends of the feathers; lower back, rump and upper tail coverts rufous; lesser and median wing coverts rufescent brown; greater coverts and quills more rufescent brown; quills dusky brown on their inner webs; tail reddish brown, externally brighter rufous; head and nape umber brown, tinged with golden; ear coverts brown, bordered below by a line of white mottled with black centres; a patch under the ear coverts, breast and rest of lower plumage orange-chestnut, paler on the centre of the abdomen; under tail and under wing coverts a little paler. Legs and feet pale dingy green; lower mandible and edge of the upper one plumbeous; rest of bill black; irides crimson lake.

*Length*.—6·1 to 6·5 inches; wing 2·7; tail 2·15 to 2·2; tarsus 1; culmen 0·8.

*Hab.*—The Mooleyit mountain in Tenasserim, where it was first discovered by Colonel Tickell. Davison met with it on the lower hills north of Meetan. Oates' men procured specimens at Malewoon south of that division, and Capt. Bingham, according to Oates, states that it occurs sparingly on the Dawna range and other parts of the western water-shed of the Thoungyeen river. It affects forests and even open spots or bamboo jungle. It goes about in small parties, keeping much to the undergrowth.

### Gen. *Turdinus*.—*Blyth*.

Bill more slender than in *Stachyris*, about equal to the head, straight, stout, high, much compressed, the *cutting edge straight*, tip slightly hooked; nostrils large, aperture closed by a membrane; tail somewhat short, wing with the 4th quill generally the longest; tarsus moderate, feet large, middle and hind claw long; plumage lax; coronal feathers divergent and slightly elongated.

**610. *Turdinus Abbotti* (*Blyth*),** *Oates, B. Br. Burmah*, i. p. 58; *Sharpe, Cat. B. Br. Mus.* vii. p. 541. *Malacocincla abbotti, Blyth, J. A. S. B.* xvi., p. 601. *Trichastoma abbotti, Blyth, J. A. S. B.* xvi. p. 462; *Bp. Consp.* i. p. 259; *Jerd., B. Ind.* ii. p. 17; *Hume, Str. F.* 1874, p. 535; *Blyth and Wald., B. Burm.* p. 115; *Oates, Str. F.* 1877, p. 151; *Tweed., Ibis*, 1877, p. 452, pl. xi. fig. 2; *Hume and Dav., Str. F.* 1878, p. 259; *Cripps, Str. F.* 1878, p. 277; *Hume, Str. F.* 1879, pp. 60, 95. *Trichastoma olivaceum, Hume, Str. F.* 1880, p. 108.—ABBOTT'S THRUSH-BABBLER.

Whole upper surface olivaceous brown, the shafts of the feathers very slightly paler especially on the head and mantle; the rump a little brighter and tinged with ferruginous; lores, eye streak extending to the ear coverts, and feathers round the eyelids grey or ashy whitish; sides of face and ear coverts fulvous with whitish shaft-lines; cheeks, throat and upper breast dull white; foreneck and chest fulvescent brown; rather ochreous buff on the flanks and thighs; vent and under tail coverts deep rufous ochre; under wing coverts and axillaries light fulvescent brown; tail brown with

dusky cross bars under certain lights; wing coverts like the back, greater series and quills sepia brown, externally fulvescent olive brown; irides reddish brown; eyelids plumbeous; upper mandible dark brown, except the tip and terminal third of the margins, which, together with the lower mandible, are pale bluish; legs and feet pinkish fleshy.

*Length*.—5·6 to 6·5 inches; wing 2·9 to 2·95; tail 2; tarsus 1; culmen 0·85.

*Hab.*—N.-E. Bengal and Eastern Himalayas through Burmah and Tenasserim to the Malay peninsula and Borneo. It has been recorded from Nepaul, Dacca, Pegu, Tenasserim, Malacca and Bankasoon, also from Arrakan on the island of Ramree. Capt. Wardlaw-Ramsay obtained it in Tonghoo and at the foot of the Karin Hills. Oates says it is only found in the thickest vegetation, evergreen forests by preference, and also in pine-apple gardens and secondary jungle. It keeps to the ground generally, but at times may be seen tolerably high up in trees, searching for insects. He adds, that though not gregarious, numerous birds are generally met with in one patch of jungle. The species constructs its nest in May and June and part of July, a cup-shaped structure of dead leaves lined with fern roots, which is placed near the ground in some thick bush. The eggs, three in number, are of a beautiful salmon pink colour scrawled and marked with deep purple.

**611. *Turdinus magnirostris* (Moore), Sharpe, Cat. B. Br. Mus.** vii. p. 547. *Alcippe magnirostris*, Moore, P. Z. S. 1854, p. 277. *Malacopteron magnirostris*, Gray, Hand-l. B. i. p. 317; Hume and Dav. Str. F. 1878, p. 274; Hume, Str. F. 1879, pp. 61, 96. *Malacopteron magnirostre*, Oates, B. Br. Burm., i. p. 56.—The BROWN-HEADED TREE-BABBLER.

*Adult* (type of species).—Head, neck, mantle and upper back dull olivaceous brown, the lower back and rump more rufescent brown, with some long plumes of yellowish white on the latter, forming a narrow band concealed by the feathers of the rump; lesser and median wing coverts like the back, the greater series and the quills dusky brown, externally olivaceous brown, with a slight rufous tinge; upper tail coverts and tail uniform rufous, the feathers of the latter a little browner towards the ends; lores and feathers round the eye ashy white; over the eye a shade of grey; ear coverts ashy brown with dull whitish shaft lines; cheeks dull ashy, forming a broad and distinct moustachial streak; throat and abdomen white, also the under tail coverts; breast and sides of the body washed with ashy brown with a few few streaks of ashy on the lower throat and foreneck; axillaries and under wing coverts buffy white, or white edged with pale fulvous; quills dusky brown below, fulvescent along the edge of the inner web (*Sharpe*); legs, feet and claws pale bluish, sometimes a little darker and more plumbeous; upper mandible dark horny brown, the lower bluish white, pale blue or plumbeous; gape dull yellow; irides red, varying from cinnabar to lake, and from lake to crimson. (*W. Davison, Ex. Cat. B. Br. Mus.*)

*Length*.—6 to 7 inches; wing 3 to 3·35; tail 2·6 to 3; tarsus 0·9; culmen 0·75. Females are smaller, the wing being 2·9 against 3·35 of the male.

*Hab*.—Malayan peninsula, extending into Southern Tenasserim and Cochin-China. It is recorded from Malacca and Sumatra. Davison found it in the extreme south of Tenasserim, where he says it is usually found in small parties hunting about the brushwood and tops of the smaller trees for insects. He adds that it does not descend to the ground.

Gen. **Erythrocichla**.—Sharpe.

General characters as in *Turdinus*, the first primary very large, more than half the length of the longest quills; rectal bristles large and very strong, reaching to two-thirds of the length of the bill. Culmen shorter than the tarsus.

**612. Erythrocichla bicolor** (Less.), Sharpe Cat. B. Br. Mus. vii. p. 551. *Brachypteryx bicolor*, Less., Rev. Zool. 1839, p. 138. *Malacopteron ferruginosum*, Blyth, J. A. S. B. xiii. p. 383; *Salvad, Ucc. Born.* p. 228; *Hume and Dav., Str. F.* 1878, p. 58; *Hume, Str. F.* 1879, p. 96. *Trichastoma bicolor*, Blyth, Cat. B. Mus. As. Soc. p. 147; *Bp. Consp.* i. p. 259; *Hume, Str. F.* 1874, p. 536. *Napothera rubicauda*, *Bp. Consp.* i. p. 359. *Trichastoma ferruginosum*, Blyth, Ibis, 1865, p. 47; *Oates, B. Br. Burm.* p. 58.—THE FERRUGINOUS THRUSH-BABBLER.

Whole upper plumage ferruginous, the inner webs of the wing quills brown; the forehead and crown with light shaft lines, the upper tail coverts and tail bright ferruginous or chestnut; a narrow band of silky white plumes nearly concealed by the long feathers of the rump; lores and feathers round the eye buffy white; ear coverts pale brown; cheeks, throat and under surface of body white, the foreneck and breast with a fulvous tint; thighs tawny; under tail coverts very pale buff; wing coverts and axillaries the same; upper mandible dirty white; lower mandible dark brown; legs and feet fleshy white; iris pale wood brown.

*Length*.—6·3 to 6·5 inches; wing 2·95 to 3; tail 2·35 to 2·65; tarsus 0·1; culmen 0·8.

*Hab*.—From South Tenasserim down the Malayan peninsula to Sumatra and Borneo. It has occurred only in the extreme south of Tenasserim at Malewoon and on the Pakchan, where it is said to be rare. According to Davison, it keeps habitually on the ground, only flying up into the bushes and trees when disturbed. It inhabits dense forests.

Gen. **Drymocapthus**.—Blyth.

General characters as in *Erythrocichla*; bill moderately stout, but somewhat shorter; nostrils nearly concealed; rectal bristles very small, not reaching beyond the nostrils; wing rounded, longer than the tail in length, the inner secondaries about equal in length to the primaries; culmen much shorter than the tarsus.

**613. *Drymocataphus nigricapitatus* (Eyton), Blyth, *J. A. S. B.* xviii. p. 815; Moore, *P. Z. S.* 1854, p. 273; *Salvad. Ucc. Born.* p. 219; *Tweed, Ibis*, 1877, p. 308; *Hume and Dav., Str. F.* 1878, p. 275; *Hume, Str. F.* 1879, pp. 61, 96; *Kelham, Ibis*, 1881, p. 511.; *Oates, B. Br. Burm.* i. p. 64; *Sharpe, Cat. B. Br. Mus.* vii. p. 554. *Brachypteryx nigrocapitata*, *Eyton, P. Z. S.* 1839, p. 103; *Blyth, J. A. S. B.* xiii. p. 385.—The BLACK-HEADED GROUND-BABBLER.**

Upper plumage including the wings and tail rufous brown; inner webs of quills plain brown, the tail with chestnut margins, the mantle with indistinct pale shafts; crown of the head and nape, also a moustacial stripe black; lores, feathers round the eye, eyebrow, sides of the face, and ear coverts ashy grey, streaked with white shaft lines; ear coverts washed with rufous; sides of the neck, hinder cheeks and under surface of the body orange rufous or ferruginous; forepart of cheeks, chin and throat white; thighs, flanks and under tail coverts with a shade of olive brown; under wing coverts light orange; legs and feet fleshy white; irides rhubarb red.

*Length*.—6·5 to 7 inches; tail 2·25 to 2·7; wing 2·4 to 2·65; tarsus 1·2; culmen 0·7.

*Hab.*—The Malayan peninsula, straggling into Sumatra and the southern portions of Tenasserim, at Bankasoon and Malewoon. It occurs either singly or in pairs. Davison says they are shy birds, frequenting only the densest portions of the forest, and especially cane-brakes. They feed on insects. Nothing whatever is known of their nidification.

**614. *Drymocataphus ignotus* (Hume), Sharpe, *Cat. B. Br. Mus.* vii. p. 556. *Pellorneum ignotum*, *Hume, Str. F.* 1877, p. 334; *id., Str. F.* 1878, p. 143; *id., Str. F.* 1879, p. 96. *Turdinus nagaensis*, *Godwin-Austen, Ann. and Mag. Nat Hist.* (4) xx. p. 519; *Hume, Str. F.* 1878, p. 143, *note*.—HUME'S GROUND-BABBLER.**

*Adult male*.—(Naga Hills; type of *T. nagaensis*). Above uniform dark brown of rather a reddish tint; the lesser and median wing coverts like the back; greater coverts and quills dusky brown, externally like the back; tail feathers brown; over the eye apparently a paler shade of ashy whitish; ear coverts and sides of the face brown; *throat conspicuously white*, with scarcely perceptible dusky tips to some of the feathers; foreneck and breast olive fulvous brown, with slight fulvescent shaft streaks; centre of breast and of abdomen white; sides of the body more fulvescent brown, inclining to tawny on the lower flanks and thighs, and deepening perceptibly on the under tail coverts; under wing coverts and axillaries fulvous brown; quills dusky brown below, pale ashy rufous along the inner web. (*Sharpe*.)

*Length*.—4·4 inches; wing 2·2; tail 2; tarsus 0·9; culmen 0·6. (*Mus. H. H. Godwin-Austen, ex. Sharpe, Cat B. Br. Mus.*)

*Hab.*—Hills of North-Eastern Bengal.

**615. Drymocataphus Assamensis**, Sharpe, *Cat. B. Br. Mus.* vii. p. 557. *Pellorneum Tickellii* (*non Blyth*), *Hume and Dav.*, *Str. F.* 1878, pp. 277, 514; *Hume, Str. F.* 1878, p. 143, *note*; *id. Ibis*, 1878, p. 114; *id., Str. F.* 1879, p. 96. *Turdinus garoensis*, ad., & *Godwin-Austen, J. A. S. B.* xlv. p. 75; *Oates, B. Br. Burm.* i. p. 65.—SHARPE'S ASSAM GROUND-BABBLER.

*Adult male*.—(Dikrang Valley.) Above dark brown with pale shaft streaks to the feathers of the head and mantle; forepart of crown rather lighter with distinct yellowish buff shaft streaks; rump with scarcely perceptible shaft lines; wing coverts like the back, the greater series externally more fulvous brown; primary coverts blackish, externally washed with fulvous, forming a small wing patch; quills blackish, their outer webs deep fulvous brown with pale shafts; tail feathers dusky brown, externally washed with dark fulvous brown; lores ashy fulvous mottled with dusky tips to the feathers; plumes round the eye ashy fulvous, ashy grey on the hinder margin; a slight shade of ashy grey above the ear coverts, not pronounced enough to form an eye-brow; ear coverts dark brown with paler fulvous shaft lines; cheeks pale fulvous brown, slightly mottled with dusky tips to the feathers; under surface pale fulvous brown with dusky brown streaks on the throat and cheeks; centre of breast and abdomen creamy white; flanks and sides of body dark olive brown. the thighs a little more fulvescent; under tail coverts pale fulvous; under wing coverts and axillaries light fulvous brown; bill dark brown above, pale grey below; legs and feet very pale flesh colour; iris brown. (*Sharpe*.)

*Length*.—5·5 inches; wing 2·5; tail 2·1; tarsus 1·15; culmen 0·6. (*Mus. H. H. Godwin-Austin ex. Sharpe, Cat. B. Br. Mus.*)

*Hab*.—Hills of Assam and North-Eastern Bengal.

There appears to be only a single adult ♂ skin of this species in the British Museum, collected by Mr. Cockburn at Dholah in Assam, and presented to it by Mr. E. W. Oates.

**616. Drymocataphus Tickelli** (*Blyth*), *Tweed, Ibis*, 1877, p. 451, pl. xi. fig. a; *Oates, B. Br. Burm.* i. p. 64; *Sharpe, Cat. B. Br. Mus.* vii. p. 558. *Pellorneum Tickellii*, *Blyth, J. A. S. B.* xxviii. p. 414; *Tickell, Ibis*, 1863, p. 113; *Hume, Str. F.* 1873, p. 299 (*note*); *Oates, Str. F.* 1875, p. 119; *id.* 1876, p. 406; *Godwin-Austen, Ibis*, 1878, p. 115. *Trichastoma minor*, *Hume, Str. F.* 1874, p. 535; *Wald. in Blyth's B. Burm.* p. 115; *Hume, Str. F.* 1877, p. 59; *id. and Davison, Str. F.* 1878, p. 259; *id., Ibis* 1878, p. 114; *Godw.-Aust., t. c.* p. 115. *Turdinus garoensis*, *Godw.-Aust. J. A. S. B.* xliii. p. 160, pl. viii. (1874); *Hume, Str. F.* 1875, p. 396; *id.*, 1878, p. 514. *Drymocataphus fulvus*, *Wald. Ann. and Mag. Nat. Hist.* xv. p. 401; *Hume, Str. F.* 1875, p. 403. *Alcippe Tickelli*, *Godw.-Aust., Pr. A. S. Beng.* xvi. p. 146. *Trichastoma minus*, *Tweed., Ibis*, 1877, p. 385; *Godw.-Aust., Ibis*, 1878, p. 115; *Hume, Str. F.* 1879, p. 95.—TICKELL'S GROUND-BABBLER.

Whole upper plumage olive brown, with a tinge of rufous, the forehead fulvescent, and the feathers of the head pale shafted; ear coverts, cheeks and under surface (except the centre of the abdomen, which is white,) clear fulvous; wings dark brown, the outer edges pale fulvous; tail fulvous brown, the outer edges pale fulvous; thighs and under tail coverts, also the under wing coverts and axillaries, fulvous. Bill dusky above, pale fleshy beneath; irides reddish brown; eyelids greenish flesh colour.

*Length*.—4·5 to 6 inches; wing 2·25 to 2·4; tail 2 to 2·2; tarsus 0·1; culmen 0·6.

*Hab*.—British Burmah. (The hills of Karennee, Pegu and Tenasserim.) Oates says it occurs plentifully on the eastern spurs of the Pegu hills, in those portions which are covered with evergreen forest. Davison, he says, met with it in the central and southern portions of Tenasserim, and procured specimens from Thoungya Sakan down to the Thoungyeen river. Captain Wardlaw-Ramsay's specimens were got in Karennee, at an elevation of 2,500 feet, and were described as *D. fulvus*. Bamboo and cane-brakes appear to be the sort of forests it affects.

Its notes, according to Davison, are not unlike those of *Turdinus Abbotti*. Captain Bingham found the nest in the Thoungyeen Valley on the 15th March,—a domed structure placed in a cane bush about one foot from the ground. It was made of dry bamboo leaves and lined with fine roots, and contained three eggs, which were white, dotted with pink.

**617. *Drymocataphus rubiginosus*** (*Walden*), *Sharpe, Cat. B. Br. Mus.* vii. p. 560. *Trichostoma rubiginosa*, *Walden, Ann. and Mag. Nat. Hist.* (4) xv. p. 402 (1875); *id.*, in *Blyth's B. Burm.* p. 115; *Hume and Davison, Str. F.* 1878, p. 260; *Hume, Str. F.* 1879, p. 95; *Oates B. Br. Burm.* i p. 65.—The RUFOUS GROUND-BABBLER.

*Adult female*.—Upper plumage olive brown, the head a little duller than the back, and the forehead washed with tawny; the wings rufescent brown externally; chin and centre of throat and centre of the breast and abdomen white; a narrow supercilium, sides of face and cheeks, also the sides of the throat and under surface of the body, ferruginous; under wing coverts and axillaries like the breast. Bill blackish brown above, paler below and yellowish at gape; legs dull pinkish white; iris light brown. (*Sharpe*.)

*Length*.—6·3 inches; wing 0·3; tail 2·55; tarsus 1·35; culmen 0·75. (*Mus. R. G. Wardlaw-Ramsay*.)

*Hab*.—British Burmah. The Karennee Hills.

Gen. **Gypsophila**,\* *E. W. Oates, R. Br. Burm.*

General characters not unlike those of *Drymocataphus*, the first primary shorter than in *Erythrochila*, and less than half the longest quills; rectal bristles weak, not reaching to the nostrils.

\* Without generic description.



**618. *Gypsophila crispifrons* (Blyth).** *Oales*, *B. Br. Burm.* i. p. 61; *Sharpe, Cat. B. Br. Mus.* vii. p. 561. *Turdinus crispifrons*, *Blyth*, *J. A. S. B.* xxiv. p. 269; *id.*, *B. Burm.* p. 114; *Hume, Str. F.* 1877, p. 87; *id.*, and *Dav.*, *Str. F.* 1878, p. 262; *Hume, Str. F.* 1879, p. 95; *Bingham, Str. F.* 1880, p. 179. *Turdinus Darwini*, *Hume, Str. F.* 1877, p. 90.—The LIMESTONE THRUSH-BABBLER.

Top of the head, upper side of the neck, the back and scapulars olive brown, each feather edged with blackish; wing coverts, wings, rump, upper tail coverts and tail olive brown, the inner webs of the quills darker, and each of the tertiaries tipped with a minute spot of white; tail obsoletely barred darker; lores ashy with whitish shaft lines; supercilium ashy grey; ear coverts olive brown with whitish shaft lines; chin, throat and breast dull white, with broad dusky brown centres to the feathers, less conspicuous on the chin; under surface of the body ochraceous brown; the centre of the abdomen whitish or buffy white. *In Winter*, the forehead, lores, supercilium, chin, throat, sides of the head and neck, a portion of the breast and a collar at the back of the neck are pure white (*Oates*); irides variable in colour, from light to deep red; upper mandible dark brown or black; lower one pale plumbeous; legs dark brown. (*Davison*.)

*Length*.—7·0 to 7·5 inches; wing 2·95 to 3·2; tail 2·7 to 3·0; tarsus 1· to 1·15; culmen 0·8.

*Hab.*—Tenasserim, in the central portions, affecting limestone rocks near Moulmein and at Wimping. Mr. Davison found it entirely confined to the limestone rocks, moving about either singly or in pairs, but more often in small parties. He says they are excessively lively, sprightly birds, keeping up continually a twittering, chattering note. They feed on insects and land shells, also seeds. They are easily procured, but unless killed outright they scramble into some of the numerous holes in the crevices of the honey-combed rock.

### Gen. *Trichostoma*.—*Blyth*.

General characters as in *Timelia*; the bill long and slender, and the rectal sacs at gape very strong, reaching beyond the nostrils; plumage lax and puffy. One species only is known in India.

**619. *Trichostoma rostratum*, Blyth.** *J. A. S. B.* xi. p. 795; *id.*, xiii. p. 383; xvi. p. 462; *id.*, *Cat. B. Mus. A. S. Beng.* p. 147; *Bp. Consp.* i. p. 259; *Hume, Str. F.* 1879, pp. 60, 160; 1880, pp. 109, 127; *Oales, B. Br. Burm.* i. p. 56; *Sharpe, Cat. B. Br. Mus.* vii. p. 562. *Turdiostris umbratilis*, *Bp. Consp.* i. p. 218. *Brachypteryx macroptera*, *Salvad.*, *Atti. R. Ac. Torin.* iii. p. 528. *Brachypteryx Buxtoni*, *Walden*, *P. Z. S.* 1877, p. 367; *id.*, *Ibis*, 1877, p. 308, pl. 6, fig. 2.—BLYTH'S THRUSH-BABBLER.

Whole upper plumage olive brown with a rufescent tinge, a little paler on the forehead and brighter on the rump, where the feathers are very long and more or less conceal a large tuft of silky white plumes; upper tail coverts rufous; tail dark brown with a reddish tint; quills dusky brown, of a ruddy tint on the outer web, innermost secondaries entirely so; lores dull white, obscured with ashy brown tips to the feathers; sides of the head, feathers over and round the eye pale fulvescent brown; ear coverts brown with whitish shaft-lines; entire under surface, pure white, a little sullied on the breast and under tail coverts; under wing coverts and axillaries ashy brown washed with fulvous; the sides of the breast the same; upper mandible of bill horny black, the lower yellowish white, except the extreme tip; legs and feet leaden blue; iris Indian red.

*Length*.—4·9 to 5·5 inches; wing 2·65 to 2·75; tail 2·1 to 2·2; tarsus 1·0; culmen 0·7.

*Hab.*—From the extreme south of Tenasserim down the Malayan peninsula to Sumatra and Borneo. It has been procured at Malewoon by Mr. Oates' men. Of its habits there is nothing on record.

#### Gen. *Malacopteron*.—*Eyton*.

General characters of *Trichostema*, the back without spine-like plumes, the rectal bristles long, and exceeding the length of hind toe; tarsal envelope strongly scutellate.

**620. *Malacopteron magnum*, Eyton, P. Z. S. 1839, p. 103; Bp. Conspect. i. p. 259; Hume and Dav., Str. F. 1878, p. 270; Hume, Str. F. 1879, pp. 61, 95; Sharpe, Ibis, 1882, p. 61; Oates, B. Br. Burm. i. p. 55; Sharpe, Cat. B. Br. Mus. vii. p. 564. *Malacopteron majus*, Blyth, J. A. S. B. xvi. p. 461; Salvad., Ucc. Born. p. 225; Tweed, Ibis, 1877, p. 309.—The RED-HEADED TREE-BABBLER.**

Forehead and crown bright ferruginous, the anterior feathers black-shafted, and the posterior ones faintly edged with black; lores and a broad supercilium ashy grey with small ashy streaks on the latter; a black patch on the nape; ear coverts fulvous brown with pale shafts; upper plumage olive brown, tinged with ferruginous on the rump; the inner webs of the quills plain brown; upper tail coverts, central pair of feathers and the outer webs of all the other feathers ferruginous; the lateral tail feathers and the inner webs of the others, except the central pair, plain brown; chin, throat and upper breast white streaked with grey; rest of under surface of body greyish white, the flanks washed with ashy brown; the under tail coverts white; under wing coverts and axillaries ashy; legs white; feet and claws blue to pale plumbeous; upper mandible dark horny brown, the lower plumbeous or tinged with blue, bluish white at tip; irides carmine to orange red.

*Length*.—6·5 to 7 inches; tail 3·0; wing 3·5; tarsus 0·9; culmen 0·75. The males are larger than the females, the wing of the latter being only 3·2 to 3·25

*Hab.*—Southern Tenasserim to Sumatra and Borneo. Davison says it does not descend to the ground as far as his observations go. The species goes about in pairs or small parties; food insects.

### Gen. *Mixornis*.—Hodgs.

Bill moderately long and compressed, broader than high at nostrils, which are ovoid; wings moderate, rounded, generally the first four quills graduated, the 5th and 6th subequal and longest; tail moderate; tarsus short.

**621. *Mixornis gularis* (Raffl.), Blyth, Cat. B. Mus. As. Soc. Beng. p. 149; Wald., Ibis, 1872, p. 376; Hume and Dav., Str. F. 1878, p. 266; Hume, Str. F. 1879, pp. 60, 95; Oates, B. Br. Burm. i. p. 51; Sharpe, Cat. B. Br. Mus. vii. p. 576. *Motacilla gularis*, Raffl., Trans. Lin. Socy. xiii. p. 312; Walden, P. Z. S. 1866, p. 547. *Mixornis Sumatrana*, Bp. Consp. i. p. 266. *Mixornis similis*, Blyth, Ibis, 1865, p. 47.—The SUMATRAN YELLOW-BREASTED TREE-BABBLER.**

Above reddish brown; the head and sides of the neck deep chestnut, also the upper tail coverts; lores and frontal plumes dusky lead colour, the ear coverts also dusky, with a distinct wash of reddish brown; a pale yellow line from the nostrils over the eye; wing coverts chestnut; quills sepia brown, the margins chestnut, and the inner secondaries entirely chestnut like the back; tail chestnut; under surface of body bright yellow, cheeks also yellow; the throat and foreneck yellow, broadly streaked with black; sides of the body and under tail coverts greenish; under wing coverts yellow, with a few dusky markings. Bill bluish slate colour; legs greenish; iris brown.

*Length*.—5·3 inches; wing 2·35 to 2·4; tail 2·4; tarsus 0·7; culmen 0·55.

*Hab.*—Tenasserim, in the southern division to the Malayan peninsula and Sumatra. It frequents tree and bush jungle, and is generally seen in pairs.

**622. *Mixornis rubricapilla* (Tickell), Horsf. and Moore, Cat. B. Mus. E. I. Co. i. p. 229; Jerd., B. Ind. ii. p. 23; Wald., P. Z. S. 1866, p. 547; Blyth, Ibis, 1870, p. 170; Blyth, Ibis, 1867, p. 3; Wald., Ibis, 1872, p. 376; Hume, Str. F. 1873, p. 118; Ball, Str. F. 1874, p. 409; Hume, t. c. p. 476; id., Nests and Eggs, Ind. B. p. 245; Anders. Zool. Exp. Yunnan, p. 635; Hume and Dav., Str. F. 1878, i. p. 266; Hume, Str. F. 1879, p. 95; Oates, B. Br. Burm. i. p. 50; Sharpe, Cat. B. Br. Mus. vii. p. 578. *Motacilla rubricapilla*, Tick., J. A. S. B. 1833, p. 576.—The YELLOW-BREASTED TREE-BABBLER.**

Top of the head ferruginous or light chestnut red; a yellow line from the nostrils produced back over the eyes; nape, back, rump, scapulars, wing coverts and tail coverts dull olive green; lores dusky; sides of the neck olive green; ear coverts pale yellow; quills brown, the outer webs rufescent brown; chin, throat, cheeks and upper breast yellow with black shaft stripes; rest of under surface of the body paler yellow tinged with ashy on the flanks and vent; tail dull reddish brown, the shafts of the feathers darker red; under wing coverts yellowish white, inclining to bright yellow near the edge of the wing. Bill horny brown; iris dull white (? hazel); eyelids plumbeous; legs fleshy horn.

*Length*.—4·3 to 5 inches; wing 2·15 to 2·3; tail 1·95 to 2·1; tarsus 0·7; culmen 0·55.

*Hab.*—The Himalayas, extending into the Burmese countries. It is recorded from Nepal, Bhootan, Cachar, Pegu and Cochin China. It also occurs in Assam, and the hill tracts generally of Eastern Bengal and in Sikkim. Colonel Tickell procured it in Central India. Oates says it is found commonly over the whole of Pegu, except perhaps in the drier portions. It affects bush jungle, and is generally like the last species found in pairs or small parties. It has a metallic note, which it utters for hours at a time sitting on a bough concealed by leaves. It breeds during May, making its nest in some low shrub and near to the ground. The nest is made of bamboo leaves and lined with grass, or built entirely of grass. In form it is globular, and has an opening at the side. The eggs, three in number, are regular ovals, moderately elongated, only very slightly compressed at one end. The ground colour is white with a slight pinkish tinge marked with tiny specks of brown and purplish, more thickly at the larger end. Size 0·65 to 0·71 in length and 0·5 to 0·51 in breadth.

**623. *Mixornis erythroptera* (Blyth), Sharpe, Cat. B. Br. Mus.** vii. p. 580; Oates, *B. Br. Burm.* i. p. 51. *Timalia erythroptera*, Blyth, *J. A. S. B.* xi. p. 794. *Cyanoderma erythropterum*, Sharpe, *P. Z. S.* 1875, p. 105; Tweed, *Ibis*, 1877, p. 308; Hume, *Str. F.* 1879, pp. 60, 95. *Cyanoptera erythroptera*, Hume and Dav., *Str. F.* 1878, p. 269.—The RED-WINGED TREE-BABBLER.

Forehead, supercilium, ear coverts, sides of the head and neck, the chin, throat and breast and upper abdomen slaty grey or plumbeous; flanks, vent, thighs and under tail coverts fulvous brown; under wing coverts and axillaries pale fulvous; tail brown, with rufous margins. Bill dark plumbeous blue; legs, feet and claws pale, almost white tinged with greenish; iris madder-red to deep brown. (W. Dav.)

*Length*.—5·2 to 5·5 inches; wing 2·2 to 2·3; tail 1·9 to 2; tarsus 0·8; culmen 0·65.

*Hab.*—From Southern Tenasserim down the Malayan peninsula to Sumatra. Its habits are not unlike those of its allied congeners, and like them affects tree and bush jungle, and is seldom seen on the ground. Mr. Davison found a nest in April, which is said to be a ball about 6 inches in diameter, composed of dry reed leaves with an aperture on one side. The nest was placed about 3 feet from the ground.

**Gen. *Corythocichla*.—Sharpe.**

This genus is characterized by Sharpe (*Cat. B. Br. Mus.* vii. p. 507) as differing from the preceding in having the tail very short, far exceeded by the outstretched feet, and not hidden by the plumes of the rump, the culmen shorter than the tarsus, the bill broader than deep at the nostrils, and the rectal bristles well developed.

**624. *Corythocichla brevicaudata* (Blyth), Sharpe, *Cat. B. Br. Mus.* vii. p. 592.** *Turdinus brevicaudatus*, Blyth, *J. A. S. B.* xxiv. p. 272; *Walden, Ibis*, 1876, p. 345; *Hume and Dav., Str. F.* 1878, p. 262; *Hume, Str. F.* 1878, p. 462; 1879, p. 95; *Bingham, Str. F.* 1880, p. 179; *Oates, B. Br. Burm.* i. p. 60. *Macronus brevicaudatus*, Gray, *Hand-l. B.* i. p. 319.—The SHORT-TAILED THRUSH-BABBLER.

Head, upper back, scapulars, rump and upper tail coverts olive grey with the shafts lighter, and each feather margined with dark brown; lores, supercilium, sides of the face, ear coverts and cheeks ashy grey, with indistinct whitish shaft streaks; lesser and median wing coverts with narrow pale shaft lines, the greater series darker brown with tiny white spots at the tip; primary coverts and quills dark brown, externally washed with olivaceous; the inner secondaries tipped with a white spot; tail dark brown, the outer webs olivaceous brown; chin and throat streaked with white and dusky; foreneck, *breast* and under surface of the ~~body~~ *light tawny or ferruginous buff: the centre of the breast and abdomen creamy buff*, and the sides and flanks browner; sides of the foreneck pale ashy, streaked mesially with whitish; thighs dusky brown, washed with tawny; under tail coverts tawny with buffish tips; under wing coverts and axillaries dull tawny with whitish shaft lines on a dusky centre; eggs, feet and claws pale brown to pale fleshy brown; upper mandible very dark brown; the lower one plumbeous; irides variable, deep brown, red brown or cinnamon red.

*Length.*—4·5 to 5·5 inches; wing 2·4; tail 1·5 to 1·9; tarsus 0·9; culmen 0·6.

*Hab.*—Tenasserim on the higher slopes of the Mooleyit. Mr. Davison says he only met with it here at elevations from and above 5,000 feet among the boulders hopping about on and amongst the rocks, and turning over leaves in search of insects. He found them in small parties, also in pairs and occasionally singly.

• 625. *Corythocichla striata* (Walden), Sharpe, *Cat. B. Br. Mus.* vii. p. 593. *Turdinus striatus*, Walden, *Annals and Mag. Nat. Hist.* (4) vii. p. 241 (1871); *Godw.-Austen*, *J. A. S. B.* xvi. pt. 2, p. 44. *Turdinus William-soni*, *Godw.-Austen*, *J. A. S. B.* xvi. pt. 2, p. 44; *id.*, *op. cit.* xvi. pt. 2, p. 16 (1878).—THE STRIATED THRUSH-BABBLER.

Above ashy olive brown, mottled with blackish margins to the feathers and whitish shaft lines; rump and upper tail coverts uniform; wing coverts like the back, but the dusky margins not so pronounced; the greater coverts with small triangular spots of rufous buff; quills sepia brown, externally olive brown with distinct spots of rufous buff at the tips, larger on the inner secondaries; tail sepia brown, the outer webs olive brown, and minutely tipped with rufous buff; base of forehead, lores and feathers over the eye ashy grey, slightly margined with dark brown margins to the feathers; ear coverts dull ashy washed with brown; cheeks and throat whitish, mottled with obscure central markings of dusky brown; foreneck and chest, as well as the sides of the body, pale fulvous brown, becoming bright tawny on the lower flanks, vent and under tail coverts; *centre of breast whity brown, the feathers with white shaft streaks*; under wing coverts and axillaries light tawny. (*Sharpe.*)

*Length.*—5·5 inches; wing 2·4; tail 1·4; tarsus 1; culmen 0·6. (*Sharpe.*)

*Hab.*—Hills of N.-E. Bengal (Khasia Hills).

Nothing appears to be on record in regard to the habits, &c., of this species, which not unlikely are the same as those of the preceding species.

### Gen. *Turdinulus*.—*Hume.*

*Turdinulus*, Gen. Nov.

Like "*Turdinus*," but with the bill proportionately longer, and much more compressed at the base, and with the tail extremely short.

*Plumage* soft and full, very full and lax on rump and flanks.

*Bill* large, straight, much compressed throughout its entire length; culmen almost perfectly straight, curved downwards just at the tip; upper mandible projecting appreciably beyond lower mandible; a notch in the upper mandible; nostrils large, in a triangular basal fossa, nearly covered in by a membranous shelf.

*Wings* short, about three times the length of the bill from forehead to point, very much rounded, 5th, 6th, 7th, and 8th sub-equal and longest, sometimes 5th a shade shorter, sometimes 8th a shade shorter or longer; first four quills graduated; 1st quill longer than tail from forehead.

*Legs and feet* very strong; mid toe without claw equal to bill at front; tarsus rather longer; hind toe and claw rather shorter; outer toe longer than inner toe; outer toe and claw a little larger than inner toe and claw; the tail so short as to be hidden by the plumes of the rump.

**626. *Turdinulus murinus* (Blyth),** *Hume, Str. F.* 1880, p. 115; *Oates, B. Br. Burm.* i. p. 62; *Sharpe, Cat. B. Br. Mus.* vii. p. 593. *Myiothera murina*, *Blyth, Ibis*, 1865, p. 47 (*ex. Müll. MS. in Mus. Lugd.*). *Pnoepyga Roberti*, *Godw.-Aust. and Wald., Ibis*, 1875, p. 253; *Hume, Str. F.* 1876, p. 218. *Turdinulus Roberti*, *Hume and Davison, Str. F.* 1878, p. 235; *Hume, Str. F.* 1879, p. 93; *Gould, B. Asia*, part xxxiii.—ROBERT'S GROUND-BABBLER.

*Adult* (type of species).—General colour above brown, mottled with blackish edges to the feathers; the mantle and upper back varied with whitish shaft streaks; rump and lower back uniform brown, rather more fulvescent; wing coverts rather more reddish brown than the back, with a small triangular spot of white at the tips; tail feathers reddish brown; lores and base of forehead whitish, the feathers tipped with dusky, producing a somewhat scaly appearance; a pale fulvous superciliary streak, the feathers slightly mottled with dusky edges; ear coverts dull brown; cheeks rufous buff, mottled with blackish tips to the feathers; throat white, thickly mottled with triangular blackish spots in the centre of the feathers; breast whitish or creamy buff, rather mottled with dusky edges to the feathers; centre of abdomen whitish; sides of the body fulvescent brown, the plumes on the sides of the breast with whitish shaft lines; thighs and under tail coverts more fawn-coloured; axillaries and under wing coverts fulvescent. Bill sepia brown; legs burnt-umber; iris vandyke brown. (*Sharpe, Cat. B. M.*)

*Length*.—4 inches; wing 2·05; tail 1; tarsus 0·8; culmen 0·65.

*Hab.*—Munipur Hills, extending to Mooleyit in Tenasserim, and probably found throughout the mountains of the Malayan peninsula, as it re-appears in Sumatra. (*Sharpe*.)

The above description is by Sharpe, and is from a skin in Colonel Godwin-Austen's collection. *Oates* describes a specimen from the collection of Captain Wardlaw-Ramsay, but the sex is not mentioned; Sharpe, however, says that a female in Captain Wardlaw-Ramsay's collection is rather paler in colour, and has the spots on the throat dusky brown instead of black. The species has been procured in the Malayan peninsula and in Sumatra. Colonel Godwin-Austen got specimens in Munipur. According to Mr. Davison, this species is generally seen in pairs, occasionally three or four together hopping about on the ground or about the stems of the undergrowth only in the densest portions of the forest. They are not shy, and do not fly unless very closely pressed.

#### Gen. *Rimator*.—*Blyth*.

Bill longer than the head, slightly compressed, curved, and without notch; nostrils basal, ovate; gape to the eye with only a few inconspicuous hairs; legs moderately strong; tarsus scutellate; toes long, the outer longer than the inner; wings rounded, 5th, 6th and 7th quills equal and

longest; tail short and weak, the feathers slender with soft slightly pointed tips; plumage lax, very much so on the rump. (*Ferd.*)

Fig. on Plate, p. 152.

**627. *Rimator malacoptilus*, Blyth, J. A. S. B. xvi. pp. 155, 864, 878; id., Cat. B. Mus. As. Soc. p. 38; *Ferd.*, B. Ind. i. p. 493; Gould, B. Asia, pt. 22; Hume, Str. F. 1879, p. 93. *Caulodroma gracei*, Gray and Mitch. Gen. B. i. p. 144; id. Ann. and Mag. Nat. Hist. xix. p. 362. Merva Jerdoni, Hodgs., Calc. Journ. Nat. Hist. 1847, p. 96.—The LONG-BILLED WREN.**

Head and upper parts deep brown, with pale fulvous shaft streaks; lesser and median wing coverts with narrow pale shaft lines; the greater coverts washed with rufous externally; bastard wing and primary coverts dusky brown, externally edged with lighter brown; quills the same, the inner secondaries entirely brown; tail dusky brown, the outer webs washed with rufescent; lores reddish buff, with dusky tips to the feathers; cheeks light fulvous, separated from the ear coverts by a distinct line of black; chin whitish; throat pale fulvous brown, mottled with light centres, and a black streak on each side, with a few dusky spots; under surface of the body streaked with ashy fulvous whitish and brown, the feathers of the breast margined with olive; under tail coverts deep tawny buff with paler shaft streaks; under wing coverts and axillaries pale tawny buff, with a small dark patch on the lower wing coverts. Bill dark horny, fleshy at the base; legs brownish red; iris light brown.

*Length*.—5 inches; wing 2.2; tail 1.05 to 1.25; tarsus 0.9; culmen 1.05.

*Hab.*—The Eastern Himalayas. Has only yet been found at Darjeeling and in Nepal. It is said to feed on the ground on insects. One other species known of this genus (*R. albostrigata*) occurs in Sumatra.

### GROUP.—LIOTRICHES.

In this group is comprised the Hill-Tits or *Leiotriches* and the Flower-peckers or *Iauleæ*, inhabitants chiefly of the Himalayas, some extending their range to the south-east, and through Burmah. Their plumage is very varied; the majority are of small size. Several are crested or have the feathers of the head more or less elongated; the rictal bristles are absent or very small, but in no case exceeding beyond the nostrils; the tail is small, very few only reaching half an inch beyond the tips of the wings. They feed chiefly on seeds, fruits, flower buds and insects, and nidificate on trees.

#### Gen. *Stachyridopsis*.—*Sharpe*.

Bill rather higher than wide at base, straight, slightly tapering, bent downwards and faintly notched; nostrils nearly concealed; rictals almost smooth; wings rounded, 5th, 6th and 7th quills generally equal; tarsus moderately long; bill not as long as tarsus.

**628. *Stachyridopsis ruficeps* (Blyth), Sharpe, Cat. B. Br. Mus. vii. p. 598. *Stachyris ruficeps*, Blyth, J. A. S. B. xvi. p. 452; Bp. Consp.**



i. p. 232; *Hume and Dav., Str. F.* 1878, p. 265; *Hume, Str. F.* 1879, p. 95. *Stachyris præcognitus, Swinh., Ibis*, 1866, p. 310.—The RUFOUS-HEADED TREE-BABBLER.

Above including the wing coverts olive brown to brown, the greater series, quills and tail feathers brown, washed on their outer webs with olive; *crown of the head bright rufous*; the nape also tinged with a rufescent shade; lores and an indistinct eyebrow, sides of the face and under surface of the body light yellow; ear coverts, sides of the body, thighs and under tail coverts olive brown; frontal plumes, throat and foreneck with faint dark shaft streaks; under wing coverts and axillaries white, slightly tinged with yellow. Bill plumbeous brown, reddish beneath; legs pale yellow brown; iris light brown.

*Length*.—4·9 to 5 inches; wing 2·1; tail 2·1; tarsus 0·85; culmen 0·65.

*Hab.*—The Eastern Himalayas and the Khasia Hills, Sikkim, Nepaul and Formosa are recorded localities of its occurrence. According to Hodgson it breeds from April to June, building a large massive cup-shaped nest amongst bamboos, as a rule, at heights of from 7 to 10 feet from the ground. Eggs 4 in number, brownish white, speckled and spotted with brown or reddish brown. Size 0·7 × 0·52.

**629. *Stachyridopsis rufifrons* (Hume), Sharpe, Cat. B. Br. Mus.** vii. p. 599. *Stachyris rufifrons, Hume, Str. F.* 1873, p. 479; *id. and Oates, Str. F.* 1875, p. 117; *id., Str. F.* 1876, pp. 274, 501; *id. and Dav., Str. F.* 1878, vol. i. p. 265; *id., Str. F.* 1879, p. 95; *Oates, B. Br. Burm.* i. p. 54. *Stachyris ruficeps (non Blyth), Hume, Str. F.* 1874, p. 476; *Wald in Blyth's B. Br. Burm.* p. 116.—HUME'S TREE-BABBLER.

*Forehead and anterior half of crown chestnut or pale rufous brown*; the feathers with very faint indications of dark shaft streaks; lores and a streak over the eye pale fulvous brown; rest of upper plumage, including the wings and tail, olive brown, in some tinged with rufescent; inner webs of quills hair brown; chin and throat whitish with black shafts; cheeks, ear coverts, sides of the face and neck and whole under surface of the body fulvous brown; under wing coverts and axillaries pale greyish white. Bill blue; iris deep red; eyelids plumbeous; legs fleshy brown.

*Length*.—4·5 inches; wing 1·2 to 2·1; tail 1·95; tarsus 0·67 to 0·7; bill from gape 0·55. The female is smaller, with a paler rufous head.

*Hab.*—The Pegu Hills. Distributed throughout Tenasserim. It has also been recorded from the Thounghyeen Valley and in Karennee. Cachar and the Bhootan Doars are also recorded localities.

**630. *Stachyridopsis pyrrhops* (Hodgs.), Sharpe, Cat. B. Br. Mus.** vii. p. 600. *Stachyris pyrrhops, Hodgs, Icon. ined. Br. Mus. Passeres*, pl. 78, fig. 4; *id., J. A. S. B.* xiii. p. 379 (1844); *Ferd., B. Ind.* ii. p. 21; *Reid. Cat. B. Prov. Mus., Lucknow*, p. 74; *Hume, Str. F.* 1879, p. 95.

*Stachyris pyrops*, *Hodgs. P. Z. S.* 1845, p. 23; *Bp. Consp.* i. p. 332.—The RED-BILLED TREE-BABBLER.

Above olivaceous to rufescent brown with a tinge of rufous on the head; back olivaceous, as also on the wing coverts and outer webs of the quills; crown of the head ochraceous brown, with mesial dark streaks; sides of the face ochraceous brown, also the ear-coverts, but with an ashy tinge; *chin and a spot in front of the eye black*; under surface of the body, including the under tail coverts, light ochraceous brown; under wing coverts and axillaries white, ochrey near the edge; tail light brown, edged narrowly with olivaceous. Bill sordid sanguine; legs pale fleshy brown; irides blood-red.

*Length*.—4·5 to 4·8 inches; wing 2·1; tail 2; tarsus 0·8; culmen 0·65.

*Hab.*—The Himalayas. The Lucknow Museum possesses specimens from Pethoragurh and Kumaon, and the British Museum from Dehra and Nepaul. Jerdon mentions it from Mussoorie and Kussowlie. Breeds during May and June. Nest a deep cup coarsely made of grass stems, and placed in a small shrub about 2—3 feet from the ground. Eggs oval, pale green speckled with purplish red.

**631. *Stachyridopsis chrysæa* (Hodgs.), Sharpe, Cat. B. Br. Mus. vii, p. 601; Oates, B. Br. Burm. i. p. 52. *Stachyris chrysæa*, Hodgs., Icon. ined. Br. Mus. App. pl. 88, No. 869; Jerd., B. Ind. ii. p. 22; Hume, Nests and Eggs, p. 245; Blyth and Wald., B. Burm. p. 116; Anders., Yunnan Exp. p. 637; Hume, Str. F. viii. p. 95.**—The GOLDEN-HEADED TREE-BABBLER.

Above, the edges of the quills and the ear coverts yellowish olive; wing coverts dusky brown edged with greenish; tail the same, edged with yellowish olive; crown golden yellow with mesial dark streaks; forehead, supercilium, *cheeks, chin, throat and under surface of body golden yellow*, paler on the breast, centre of the abdomen and under tail coverts; under wing coverts yellow; *lores and feathers above and below the eye black*. Bill plumbeous; legs pale brownish yellow; irides light brown.

*Length*.—4·3 to 4·5 inches; wing 1·95 to 2; tail 1·7 to 2; tarsus 0·75; culmen 0·5.

*Hab.*—The Himalayas, extending into the hills of Arrakan and Khasia. It has been met with by Dr. Anderson near Bharno, and occurs also in Sikkim, Eastern Bengal and Nepaul to 5,000 feet. Dr. Jerdon says it frequents high trees, and feeds on insects which infest flower buds. The eggs of this species is said to be pinkish white, and the nest domed and placed on the summit of a sedge.

**632. *Stachyridopsis assimilis* (Wald.), Sharpe, Cat. B. Br. Mus. vii. p. 602; Oates, B. Br. Burm. i. p. 53. *Stachyris assimilis*, Wald. in Blyth's B. Burm. p. 116; Hume, Str. F. 1877, pp. 57, 115; Hume and Dav., Str. F. 1878, p. 265; Hume, Str. F. 1879, p. 95; Ramsay in Tweed.**

*Orn. Works* p. 661 (1881). *Stachyris vocagii*, *Salvad., Ann. Mus. Civic. Genov.* xiv. p. 223; *Hume, Str. F.* 1880, p. 117.—The ALLIED TREE-BABBLER.

*Adult female* (type of species; Karennee, R. G. Wardlaw-Ramsay).—Above ashy greenish olive, a little yellower on the rump; wing coverts ashy brown, narrowly margined with the same colour as the back; quills dusky olive, externally margined with olive yellow, brighter on the primaries; tail feathers light ashy brown, edged with olive greenish; head pale golden yellow, brighter on the forehead and lores; the crown and nape streaked with dusky down the centre of the feathers; sides of face dusky yellowish, ashy on the ear coverts, which have indistinct streaks; cheeks, throat and under surface of the body light golden yellow; a little greener on the sides of the breast and flanks; under wing coverts white or yellowish white, brighter on the edge of the wing. (*Sharpe.*) Iris brown; bill dark plumbeous, pinkish at base of lower mandible; legs light greenish brown. (*R. G. W.-R.*)

*Length.*—4·1 inches; wing 1·9; tail 1·65; tarsus 0·7; culmen 0·5. (*Mus. R. G. W.-Ramsay.*)

*Hab.*—Karennee, B. Burmah. Oates says it was first discovered by Captain Wardlaw-Ramsay in Karennee at 2,800 feet elevation, also that he has examined the specimens and find them identical with others sent by Hodgson from Nepaul and Sikkim. Davison found it on the slopes of the Mooleyit in Tenasserim.

#### Gen. *Oligura*.—*Hodgs.*

Bill of moderate length, slightly depressed, straight, and barely bent at the tip; rictal bristles few, not very evident; wings feeble, round; tail very short, hidden by the upper tail coverts and not reaching beyond the tip of the closed wing; tarsus high, slender and without scutes; toes slender and compressed; hind toe large; claws long, slightly curved. Inhabitants of the Himalayas, affecting moist woods. Two species are only known in India, and one, *O. superciliiaris*, in Java.

\* **633: *Oligura castaneocoronata*** (*Burton*), *Sharpe, Cat. B. Br. Mus.* vii. p. 603. *Sylvia castaneocoronata*, *Burton, P. Z. S.* 1835, p. 152. *Tesia flaviventer*, *Hodgs. J. A. S. B.* vi. p. 102. *Tesia castaneocoronata*, *Blyth, J. A. S. B.* xiv. p. 586; *Bp. Consp.* i. p. 257; *Jerd., B. Ind.* i. p. 487; *Godw.-Aust., J. A. S. B.* xxxix. p. 101; *Hume, Str. F.* 1879, p. 93; *Hume, Nests and Eggs, Ind. B.* i. p. 217.—The CHESTNUT-HEADED WREN.

Above bright olive green; wing coverts the same; quills dusky, edged externally with olive green; tail dull olive green; sides of the body, under wing coverts and thighs darkish green, the latter with a yellow spot above the tarsal joint; under tail coverts greenish yellow; crown of the head, sides of the face and ear-coverts chestnut; cheeks and under surface of the body pure yellow. Bill dusky, yellowish beneath; legs pale brownish yellow; iris dark brown. The young bird is paler in colour.

*Length*.—3·5 to 3·75 inches; wing 1·9; tail 0·95; tarsus 0·85; culmen 0·55.

*Hab.*—Eastern Himalayas, Nepaul and Sikkim, at about from 3,000 to 6,000 feet of elevation. Jerdon says he saw it on the banks of the Rungbee solitary, flying near the ground among some low brushwood. He found remains of insects in its stomach. A nest was brought to him said to be of this species. It was composed chiefly of moss, and contained four small white eggs. Mr. Hume, however, is inclined to the belief that the nests and eggs belonged to *Anura pusillus*. Hodgson's notes and figures of the Chestnut-headed Wren is to the effect that it builds a large globular nest, more or less egg-shaped, some 6 inches high and 4 in breadth, and that the nest was composed of moss roots and fibres, and lined with feathers, with a circular aperture in the middle of one side. The nest is said to be placed in some clumps of shoots or thick bush, at a height of 1 or 2 feet from the ground. It nidificates in April and May, laying 3 or 4 eggs, which are figured as moderately broad ovals, somewhat pointed at one end, reddish, and measuring 0·66 × 0·48 inch. Mr. Hume (in *Nests and Eggs*), says the three eggs in his museum, supposed to belong to this species, are excessively tiny, and a somewhat long oval of a pure dull glossless, unspotted white.

**634. *Oligura cyaniventris* (Hodgs.), Sharpe, Cat. B. Br. Mus. vii. p. 604. *Tesia cyaniventer*, Hodgson, J. A. S. B. vi. p. 101 (1837); Jerd., B. Ind. i. p. 487; Godw.-Aust., J. A. S. B. xxxix. p. 101; Hume, Str. F. 1879, p. 93.—The SLATY-BELLIED WREN.**

Above dark olive greenish, the outer webs of the wing coverts and quills edged with the same; under wing coverts and tail dull green; *head golden greenish yellow*; lores, sides of the face and sides of the neck dark slaty blue, darker above the eye and ear coverts; *under surface of the body slaty blue*, paler along the centre of the abdomen; thighs olive greenish. Bill dusky above, reddish beneath; legs pale reddish brown; irides brown.

Immature birds have the heads greenish without any golden colouring.

*Length*.—3·5 to 3·7 inches; wing 2·05; tail 0·65 to 0·9; wing 2 to 2·05; tarsus 0·9; culmen 0·55.

*Hab.*—The Eastern Himalayas and hills of N.-E. Bengal. It is recorded also from the Khasia Hills, Sikkim and Assam. According to Hodgson the Slaty-bellied Wren breeds during April and May. The nest is of the same shape as that of the preceding. Eggs are 3—4 in number. They are figured as rather broad ovals, somewhat pointed towards one end with a whitish ground profusely speckled and spotted with bright red, especially towards the large end, where the markings are nearly confluent. The legs measure 0·72 × 0·54 inch.

**Gen. *Minla*.—Hodgs.**

Bill more lengthened than *Oligura*, very slightly curved, depressed at the base, the tip strongly notched; rictus nearly smooth; tail short, rounded;

tarsus moderate; toes moderate, slender, basally much connected, hind toe very large; head subcrested. All the known species except one belong to India and Burmah, chiefly the Himalayas and the hills of North-Eastern Bengal.

**635. *Minla igneotincta*, Hodgs., Ind. Rev. 1838, p. 36; Jerd., B. Ind. ii. p. 254, No. 618; Hume, Str. F. 1879, p. 104. Sharpe, Cat. B. Mus. vii. p. 607. Proparus ignotinctus, Hodgs., J. A. S. B. x. p. 29. Certhiparus (Minla) ignitincta, Hodgs. Icon. ined. in Br. Mus. Passeres, pl. 86, fig. 2.—The RED-TAILED HILL-TIT.**

Above dark chocolate brown, with a fulvous shade on the rump; wing coverts black, the lesser series washed with the brown of the back, and the median and greater series edged with white; primary coverts black; quills black, *marginated and tipped with crimson*; the secondaries edged and tipped with white; upper tail coverts and tail black, the feathers of the latter edged on the outer web with crimson and tipped with white, the inner webs white, the centre ones conspicuously so; *head, hind neck, lores, feathers below the eye and ear coverts black, the head bordered by a broad white supercilium* extending along the sides of the nape and hind neck; eyelids, cheeks, under wing and under tail coverts, as also the under surface of the body, white; the flanks and sides of the breast with an ashy tinge; *centre of breast and abdomen whitish; under tail coverts yellow*. Bill blackish; legs horny yellow; iris brown. The female is white beneath or much paler in colour throughout.

*Length*.—4·5 to 5·25 inches; wing 2·4 to 2·6; tail 1·8 to 1·9; culmen 0·75.

*Hab.*—Eastern Himalayas, extending into the hills of North-Eastern Bengal. According to Jerdon it is tolerably common about Darjeeling, ranging from 5,000 to 8,000 feet. Found in small parties of five or six, hunting about for insects on the extreme end of the branches. It occurs also from Nepaul to Bhootan, and extends into the hill ranges of Assam and Sikkim. At Cherra Poonjée Dr. Jerdon found it far from rare. According to Hodgson it breeds in the central region of Nepaul and near Darjeeling during May and June. The nest is cup-shaped and made of moss, moss roots and cow's hair, and also lined with the two latter. It is usually placed in the fork of three or four slender branches of some bushy tree. The species lays from two to four eggs, a pale verditer blue ground, speckled and spotted with brownish red.

**636. *Minla castaneiceps*, Hodgs., Ind. Rev. 1838, p. 33; Sharpe, Cat. B. Br. Mus. vii. p. 608; Hume, Nests and Eggs, p. 393. Proparus castaneiceps, Hodgs., J. A. S. B. x. p. 29 (1841). Leiothrix castaniceps, Gray, Gen. B. i. p. 269; Blyth, Cat. B. Mus. As. Soc. p. 100; Jerd., B. Ind. ii. p. 355, No. 619; Hume, Str. F. 1879, p. 104.—The CHESTNUT-HEADED HILL-TIT.**

Above olive brown, also the lesser and median wing coverts, margins of the greater series of coverts, all the innermost secondaries, and outer edges of the quills; primary coverts black; quills dusky brown on their inner webs; primaries margined with orange or deep rusty, the first two outermost with grey at the base; outermost secondaries orange or deep rusty at their base; upper tail coverts and tail dull slaty grey, the inner webs of the latter dusky; forehead and crown to nape deep chestnut, the fore part centred with white and the crown with reddish buff; hind-neck washed with chestnut and streaked with fulvous; ear coverts white streaked with dusky or dark brown; lores, feathers round and below the eye, throat, foreneck and centre of body yellowish white, purer white on the abdomen and under tail coverts; eyelid, a broad supercilium extending to the nape; the axillaries and under wing coverts white, the latter tinged with yellowish; a broad stripe above the ear coverts and a spot in front of the eye black; cheeks yellowish buff, streaked with black and washed with olive brown; sides of neck olive brown mottled with white; sides of body and flanks also the thighs olive brown, the feathers of the latter with pale tips. Bill dusky brown; legs fleshy; iris brown.

*Length*.—4.15 to 5 inches; wing 2.2 to 2.25; tail 1.7 to 1.8; tarsus 0.8; culmen 0.45.

*Hab.*—South-East Himalayas from Nepal to Sikkim, extending also to the Khasia Hills. Jerdon says it is common about Darjeeling. It breeds in the neighbourhood during May and June, laying four eggs. According to Hodgson's figures (*Hume*), the eggs are somewhat elongated ovals, having a very pale greenish yellow or dingy yellowish-white ground, finely speckled, chiefly at the large end, where there is a tendency to form a zone with red or brownish red, and measuring 0.75 + 0.52. The nest is said to be placed in a thick bush at a height of about 3 feet from the ground. It is composed chiefly of twigs, grasses and moss roots, lined with leaves.

**637. *Minla brunneicauda*, Sharpe, Cat. B. Br. Mus. vii. p. 609.** *Minla castaneiceps*, (*non* *Hodgs.*), *Wald. in Blyth's Burm.* p. 110; *Hume and Dav., Str. F.* 1878, i. p. 372; *Hume, Str. F.* 1880, p. 104; *Oates, B. Brit. Burm.* i. p. 146.—The BROWN-TAILED HILL-TIT.

Similar to *M. castaneiceps*, but distinguished by its olive brown tail. The wing is much duller in colour, being externally orange brown like the wing coverts, without the brilliant orange aspect of the above named species (*Sharpe*); "legs, feet and claws pale greenish brown. Bill dark brown; base of lower mandible plumbeous; irides deep brown." (*Davison*.)

*Length*.—4.5 inches; wing 2.2; tail 1.7; tarsus 0.9; culmen 0.5.

*Hab.*—Replaces the foregoing species in the Khasia Hills, probably extending into Tenasserim. (*Sharpe*.)

**638. *Minla cinerea*, Blyth, J. A. S. B. xvi. p. 449; Jerd., B. Ind. ii. p. 255; Hume, Str. F. 1879, p. 104; Sharpe, Cat. B. Br. Mus. vii. p. 609. *Leiothrix cinerea*, Blyth, Cat. B. Mus. As. Soc. p. 100; Moore, P. Z. S. 1854, p. 142.—THE DUSKY-GREEN HILL-TIT.**

Above dark ashy grey, the mantle and upper back streaked with black; feathers of the head, ashy brown streaked with black; a yellowish white supercilium present, succeeded by a black streak above the ear coverts, which are ashy brown streaked with white; feathers round the eye white; in front of the eye a dusky spot; cheeks white, with small mottlings of dusky at the tips of the feathers; chin, throat, and under surface of the body yellowish white; sides of the body ashy brown, with a large tuft of white on the flanks; under tail coverts dull white; under wing coverts and axillaries white; wing coverts and quills brown, the primaries with paler margins; tail brown. Bill dusky; legs fleshy yellow; iris brown.

*Length*.—3·7 inches; wing 2; tail 1·45; tarsus 0·85; culmen 0·45.

*Hab.*—Eastern Himalayas, extending into the hills of N-E. Bengal. Not common in Sikkim, fairly abundant in Nepal. Jerdon says he got specimens in Darjeeling and also on the Khasia hills.

**639. *Minla ruficularis*, Mandelli, Str. F. 1873, i. p. 416; Hume, Str. F. 1874, p. 447; Godw.-Aust. Ann. and Mag. Nat. Hist. (4) xvii. p. 33; Hume, Str. F. 1877, p. 113; 1879, p. 104; Sharpe, Cat. B. Br. Mus. vii. p. 610. *Alcippe collaris*, Wald., Ann. and Mag. Nat. Hist. (4) xiv., p. 156. *Schoeniparus rufogularis*, Hume, Str. F. 1877, p. 113, note.—THE RUFOUS-THROATED HILL-TIT.**

*Adult male* (Sibsagar, Assam).—General color above brown; wing coverts like the back; primary coverts and quills dusky brown, externally a little more reddish brown than the back; upper tail coverts like the back; tail feathers reddish brown; crown of head and hind neck dull tawny rufous with pale shaft streaks to the feathers of the crown, which have also faint indications of dusky mottlings; sides of crown bordered by a broad band of black, which meets on the forehead and extends down the sides of the hind neck; lores and a broad eyebrow white, the latter extending to beyond the ear coverts; eyelids white; ear coverts dusky brown; cheeks, throat, and under parts white with a broad band of ferruginous across the lower throat; sides of neck ochraceous buff; breast washed with ashy; sides of body and flanks olive brown; thighs and under tail coverts tawny, the latter with paler tips; under wing coverts and axillaries pale tawny buff washed with olive brown.

*Length*.—4·7 inches; wing 2·35; tail 2·85; tarsus 0·9; culmen 0·55. (*Mus. H. H. Godwin-Austen.*)

*Hab.*—From the Bhootan Dooars to throughout the hill ranges of N.-E. Bengal. The above is Mr. Sharpe's description of the species in the collection of H. H. Godwin-Austen. There does not appear to have been a specimen in the British Museum at the time he was writing, nor of the next.

**640. Minla Mandelli**, *Godwin-Austen, Ann. and Mag. Nat. Hist.* (4) xvii. p. 33; *Hume, Str. F.* 1876, p. 490; *Godwin-Austen, Ibis*, 1878, p. 116; *Sharpe, Cat. B. Br. Mus.* vii. p. 610. *Proparus Mandelli*, *Hume, Str. F.* 1879, p. 104.—MANDELLI'S HILL-TIT.

*Adult male* (Naga Hills).—General color above brown; wing coverts like the back; primary coverts and quills dark brown, externally a little more rufescent than the back; upper tail coverts and tail feathers rufous brown, indistinctly barred with dusky under certain lights; crown of head and nape of an ochraceous rufescent brown, the feathers faintly mottled with dusky margins; forehead and crown with pale shaft lines; the forehead brighter rufous than the rest of the head; sides of crown bordered by a broad line of black, which starts from above the eye and extends down the sides of the hind neck; a distinct eyebrow of pointed white feathers; lores and feathers round the eye black; ear coverts dusky brown; cheeks fulvous, more rufous near the base of the lower mandible; sides of neck varied with lanceolate feathers of ochraceous buff margined with black; throat and under surface of the body light ochraceous buff, a little whiter on the throat; sides of body and flanks olive brown; thighs rufescent; under tail coverts olive brown; under wing coverts and axillaries light tawny buff. (*Sharpe.*)

*Length.*—5·6 inches; wing 2·25; tail 2·3; tarsus 0·9; culmen 0·55; the adult female is similar, but smaller.

*Length.*—5 inches; wing 2·25; tail 2·6; tarsus 0·9. (*Mus. H. H. Godwin-Austen*). (*Sharpe.*)

*Hab.*—Hill ranges of N.-E. Bengal. (Naga Hills.)

**641. Minla dubia** (*Hume*), *Sharpe, Cat. B. Br. Mus.* vii. p. 611. *Proparus dubius*, *Hume, Proc. A. S. Beng.* xliii. pt. 2, p. 107; *id. Str. F.* 1874, p. 447; *Wald. in Blyth's, B. Br. Burm.*, p. 110; *Davison, Str. F.* 1877, p. 459; *Godwin-Austen, Ibis*, 1878, p. 116; *Hume and Davison, Str. F.*, 1878, p. 373; *Hume, t. c.* p. 519; *id. Str. F.* 1879, p. 104; *Oates, B. Br. Burm.* i. 148. *Schœniparus dubius*, *Hume, Str. F.* 1874, p. 44; *id. Str. F.* 1877, p. 113. *Minla dubius*, *Hume, Str. F.* 1877, p. 113.—HUME'S HILL-TIT.

Forehead clear pale rufous; crown, occiput and nape rich rufous olive brown, each feather very narrowly fringed with dark brown; anterior portion of lores pale rufescent, paler and duller than the forehead; posterior portion of lores, ear coverts, and an indistinct ring round the eye brown; eyelids white; a white superciliary streak from over the eye to beyond the ear coverts with a



black stripe above it extending on each side to the nape and meeting behind ; upper surface of the body, including the wing covert and quills, rufescent olive brown, more rufescent on the wings and tail ; chin, throat, sides of the neck, breast, middle of abdomen, and wing lining uniform pale rufescent ; tibial plumes darker ; sides, flanks, and lower tail coverts somewhat rufescent olive brown ; legs, feet, and claws fleshy pink ; bill black, tip albescent horny ; irides pale yellowish red. (*Hume, ex Sharpe.*)

*Length*.—5·5 inches ; wing 2·05 ; tail 2·35 ; tarsus 0·9 ; culmen 0·4.

*Hab.*—Tenasserim. According to Oates this species was discovered by Mr. Davison in the pine forests of the Salween River north of Pahpooon, and was again met with by him on Moleyit Mountain. Davison found the bird generally in small parties, occasionally in pairs or singly. They feed on the ground among the low brushwood, chiefly on insects. The nest is a globular structure made of reed-leaves and lined with fibres, and is generally placed on or close to the ground. Eggs, three in number ; white, marked with dark brown or black, and also with a little dull purplish. The nests were found in Mooleyit in February.

#### Gen. *Ixulus*.—*Hodgs.*

Bill as long as in *Minla*, straight ; very slightly curved at the tip and notched ; rictal setæ scanty and minute ; wings moderate, the first three quills graduated, the next three sub-equal ; tail moderate, sometimes slightly furcate ; tarsus moderate, stout, longer than the culmen ; head with a large blunt crest ; plumage plain and of sombre tint. Habits arboreal ; food insects, flowerbuds, small fruits, &c.

**642. *Ixulus flavicollis* (*Hodgs.*), *Sharpe, Cat. B. Br. Mus.* vii. p. 612 ; *Gray's Zool. Misc.* p. 82 ; *id. P. Z. S.* 1845, p. 24 ; *id. J. A. S. Beng.* xiv. p. 562 ; *Jerd. B. Ind.* ii. p. 258 ; *Godwin-Aust., J. A. S. Beng.* xxxix. p. 109 ; *Brooks, Str. F.* 1875, p. 252 ; *Hume, Str. F.* 1879, p. 104 ; *id. Nests and Eggs*, ii. p. 395.—The YELLOW-NAPEd FLOWER-PECKER.**

Above, including the wing coverts, dusky brown ; quills dark brown ; the outer webs dusky brown ; primaries edged with white near the tips ; upper tail coverts and tail dusky brown, the feathers of the latter with olivaceous margins ; head crested, the crown brown ; occipital plumes greyish ; sides of the neck with an orange brown or rusty yellow demi-collar ; cheeks, lores, and ear coverts brown ; a ring of white feathers round the eye ; spot in front of the eye and moustachial streak black ; chin and throat white ; rest of the under surface pale yellow ; the throat and foreneck with a few dusky streaks ; sides of the body shaded with brownish and with yellowish streaks ; under tail coverts ochraceous ; wing lining white. The female is nearly white beneath, or the yellow is very pale. Bill fleshy brown ; legs fleshy yellow ; irides brown.

*Length*.—5.25 to 5.4 inches; wing 2.5; tail 2.05; tarsus 0.8; culmen 0.55.

*Hab.*—The Himalayas from Simla to Bhootan, extending also to the Khasia hills, from where, also from the Nepal Valley, Simla, Mussoorie, Darjeeling, and Sikkim it is recorded. According to Jerdon it is a common species about Darjeeling. It associates in large flocks, is very active and incessantly on the move among the foliage of bamboo trees hunting for insects, larvæ, &c. It breeds in the central region of Nepal and about Darjeeling. Dr. Gammie found a nest which, he says, was most artfully concealed in forest in the cinchona reserves. It was a rather deep cup composed of moss and fine root fibres, and thickly lined with the latter. It was suspended at a height of about 6 feet from the ground amongst the natural moss, hanging from a horizontal branch of a small tree, in which it was entirely enveloped. Mr. Hodgson, however, says it builds on the ground in tufts of grass. The number of eggs is said to be 3—4. Those in Mr. Hume's possession (*Nests and Eggs*, p. 396,) are all of one type, rather elongated ovals, with scarcely any gloss, and strongly recalling in shape and size, also in appearance, densely marked varieties of the eggs of *Hirundo rustica*, but with the markings rather browner and slightly more smudgy. The ground colour is white with perhaps a slight yellowish tinge, or more or less pale salmon colour when unblown; they are profusely blotched, streaked, freckled and spotted with two shades of dull but not dark brown, the one reddish, the other yellowish: the markings are of a streaky and ill-defined character. Size 0.78 to 0.8 in length and 0.54 to 0.56 in breadth.

**643. *Ixulus occipitalis*, Blyth, *J. A. S. B.* xiv. p. 552; *Jerd. B. Ind.* ii. p. 259, No. 624; *Godw.-Austen, J. A. S. Beng.* xxxix. p. 109; *Hume, Str. F.* 1879, p. 104; *Hume, Nests and Eggs, Ind. B.* p. 395; *Sharpe, Cat. B. Br. Mus.* vi. p. 613. *Siva occipitalis*, Blyth, *J. A. S. Beng.* xiii. p. 937. *Yuhina occipitalis*, Gray, *Hand-l. B.* i. p. 276.—The CHESTNUT-HEADED FLOWER-PECKER.**

*Crown and nape orange or ferruginous brown, with a half concealed white occipital patch*; head crested, the long feathers with dusky centres; lores and feathers above and below the eye dusky blackish; ear coverts the same, but streaked mesially with white; cheeks mottled orange, dusky and white; throat dull white; foreneck and breast pale vinous, streaked mesially with dusky; centre of abdomen very pale with dusky streaks, the sides brown; vent and under tail coverts ochraceous buff; wing lining white; upper surface of the body dusky olive brown; the back with narrow white streaks, the rump slightly washed with fulvous; lesser and median wing coverts like the back in colour and in character of streaks; primaries edged externally with yellowish olive; upper tail coverts margined with yellowish olive; tail dusky brown. Bill black; legs pale yellowish brown; iris brown.

*Length*.—5·25 inches; wing 2·75; tail 2·15; tarsus 0·8; culmen 0·5.

*Hab*.—Eastern Himalayas, extending to the Khasia and Sikkim hills in N.-E. Bengal. A nest of the species was taken by Mr. Gammie below Rungbee at an elevation of about 3,000 feet. It was similar in structure to that of the last. Only three eggs were found in the nest.

**644. *Ixulus humilis*, Hume, *Str. F.* 1877, p. 106; *id.* and Davison, *Str. F.* 1878, p. 374; *Oates, B. Br. Burm.* i. p. 149; *Sharpe, Cat. B. Br. Mus.* vii. p. 614. *Staphidia humilis*, Hume, *Str. F.* 1879, p. 104.—DAVISON'S FLOWER-PECKER.**

Forehead, crown, occiput, the full broad occipital crest, back, entire visible portion of the closed wings and tail, cheeks and ear coverts, a nearly uniform brown; upper tail coverts the same, but with a slightly more olivaceous tinge; lores and an obscure stripe on either side from the gape under the cheeks and ear coverts a richer and darker brown; chin, throat, sides of neck, and entire lower surface of the body silky white, everywhere—except on the middle of the abdomen—with longitudinal brown streaks very narrow (as in *I. flavicollis*), on chin, throat and breast, broader on the sides, flanks and lower abdomen, and occupying nearly the whole feather on the lower tail coverts; tibial plumes brown; wing lining white (*Hume*); upper mandible black; the lower one pale brown; legs and feet fleshy brown; irides red brown. (*Davison*.)

*Length*.—5·2 inches; tail 1·8; wing 2·5; tarsus 0·8; bill from gape 0·6.

*Hab*.—Tenasserim, on the highest parts of Mooleyit mountain; where Davison says he saw it hunting among the foliage near the top of a good-sized tree for insects, which its stomach contained.

### Gen. *Staphidia*.—Swinhoe.

General characters as in *Ixulus*; crest blunt, but very conspicuous; rictal bristles feeble and not reaching beyond the nostrils; tail strongly graduated.

**645. *Staphidia castaneiceps* (Moore), *Sharpe, Cat. B. Br. Mus.* vii. p. 616; *Swinh., P. Z. S.* 1871, p. 374; *Gedw.-Austin, J. A. S. B.* xlvii. pt. 2, p. 20; *Hume, Str. F.* 1878, p. 403; *id., Str. F.* 1879, p. 104.—THE CHESTNUT-HEADED FLOWER-PECKER.**

*Adult* (type of species).—General colour above dusky brown, relieved by white shaft streaks on the mantle and upper back; wing coverts exactly like the back and streaked in the same way; bastard wing and primary coverts blackish brown; quills dark brown edged lighter brown, the inner secondaries with white shafts; tail feathers blackish brown, shafted with lighter brown near the base, all but the four centre feathers tipped with white, which increases in extent towards the outermost, where the white also extends some distance up the outer web; forehead and top of head rufous brown, mottled with ashy brown margins to the feathers; hinder part of crown chestnut

brown becoming brighter chestnut on the occiput and nape; lores and feathers round the eye whitish; ear coverts chestnut streaked with pale shaft lines; an indistinct superciliary streak of ashy whitish above the ear coverts; cheeks and under surface of body dirty white washed with brown on the flanks; under tail coverts dull white, with dusky brown bases to the feathers; under wing coverts and axillaries buffy white. (*Sharpe*.)

*Length*.—5·5 inches; wing 2·3; tail 2·15; tarsus 0·65; culmen 0·45.

*Hab*.—Hills of N.-E. Bengal. The type is from the Khasia hills.

**646. *Staphidia rufigenis* (Hume), *Godw.-Aust.* *J. A. S. B.* xlvii. pt. 2, p. 20; *Hume, Str. F.* 1878, p. 145; *id.*, *Str. F.* 1879, p. 104. *Ixulus rufigenis*, *Hume, Str. F.* 1877, p. 106. *Ixulus striatus*, *Jerd.*, *B. Ind.* ii. p. 260. *Staphidea plumbiceps*, *Godw.-Aust. Ann. and Mag. Nat. Hist.* (4), xx. p. 519, (1877); *id.*, *J. A. S. B.* xlvii. pt. ii. p. 20; *Hume, Str. F.* 1878, p. 143; *id.*, *Str. F.* 1879, p. 104.—The CHESTNUT-EARED FLOWER-PECKER.**

Above, including the wing coverts brown, with distinct whitish shaft streaks; primary coverts blackish brown; quills dark brown, edged externally with the same brown as on the back, the tips of the primaries margined with white and the inner secondaries with white shafts; upper tail coverts rufescent brown; tail blackish brown, washed with lighter brown near the base; all but the centre feathers tipped with white; head crested, dusky brown, edged with grey; lores whitish; sides of crown behind the eye rufous with whitish shaft streaks; ear coverts chestnut with paler shaft streaks; cheeks mottled with white and rufous; under surface of body pale fulvous white; under tail coverts white; under wing coverts and axillaries pale fulvous white. Bill dusky brown, fleshy yellow at the base; legs pale brown; iris light brown.

*Length*.—5 inches; wing 2·35; tail 2·1; tarsus 0·65; culmen 0·45.

*Hab*.—Eastern Himalayas (Sikkim).

**647. *Staphidia striata* (Blyth), *Blyth and Wald.*, *B. Burm.* p. 110; *Godw.-Aust.*, *J. A. S. B.* xlvii. pt. ii. p. 20; *Hume, Str. F.* 1879, p. 104; *Oates, B. Br. Burm.* i. p. 150; *Sharpe, Cat. B. Br. Mus.* vii. p. 617. *Ixulus striatus*, *Blyth, J. A. S. B.* xxviii. p. 413. *Pycnonotus nanus*, *Tickell, J. A. S. B.* xxviii. p. 452.—The STRIATED FLOWER-PECKER.**

Above greyish brown, each feather with a white mesial streak; below albescent, outermost feather of tail  $\frac{1}{2}$  inch shorter than the middle pair and broadly tipped with white, as is also the ante-penultimate and next; the outer four feathers successively graduating (*Blyth*); iris blood-red. Bill dark horn; legs reddish horn.

*Length*.—5 inches; wing 2·75; tail 2·75; tarsus 0·6; bill from gape 0·5.

*Hab.*—Tenasserim, on the Mooleyit mountain (Tretoungplee), where Col. Tickell first discovered it.

### Gen. *Alcippe*.—*Blyth*.

Bill short, moderately stout and compressed; culmen curved, hooked and notched; a few rectal setæ; wings moderate, rounded, 4th and 5th quills generally equal; tail moderate or rather short, very slightly rounded; tarsus stout; head sub-crested. Birds of small size and plain sombre plumage ranging through the hills of Southern and Western India and Ceylon, also the Himalayas and the hills of N.-E. Bengal.

**648. *Alcippe vinipectus* (Hodgs.), Sharpe, Cat. B. Br. Mus.** vii. p. 619. *Siva vinipectus*, Hodgs. Ind. Rev. 1838, p. 89. *Leiothrix vinipectus*, Gray, Gen. B. i. p. 262; *Blyth*, Cat. B. Mus. As. Soc. p. 100. *Proparus vinipectus*, Hodgs., J. A. S. B. xiii. p. 938; *Ferd.* B. Ind. ii. p. 257; *Hume*, Str. F. 1879, p. 104. THE PLAIN-BROWN HILL-TIT OR QUAKER-THRUSH.

Head crested; upper surface of the body brown, tinged with rusty on the rump and on the wing coverts; quills dark brown, the secondaries tinged with rusty, the primaries lavender grey for one-half the length of their outer webs; tail brown, the feathers rusty on their outer web; crown of the head, hind neck, ear coverts, mantle and sides of the neck vinous brown, duller on the sides of the neck and darker on the crown and hind neck; a broad supercilium extending from above the eye to the sides of the hind neck white; a second black streak above the supercilium extending down the sides of the neck; cheeks and throat white, streaked with vinous brown; breast vinous brown with paler centres; under surface of the body, including the under tail coverts, dull fulvous brown; under wing coverts paler, the axillaries white with a vinous tinge. Bill and legs fleshy brown.

*Length.*—4·7 to 4·9 inches; wing 2·15; tail 2·15; tarsus 0·85; culmen 0·45.

Sharpe says that there is considerable variation in the strength of the brown striping on the breast, and that in some birds it is scarcely visible.

*Hab.*—Himalayas, extending into the hill ranges of N.-E. Bengal. Has been obtained between Simla and Mussoorie, also Nepaul and Darjeeling. Breeds about Simla, making a rather compact massive cup-like nest composed of blades of grass. The egg, Hume says, is a moderately elongated oval, slightly compressed towards one end; it has a pale green ground, and near the large end a strongly marked but very irregular sepia brown zone and pale stains of the same colour here and there.

**649. *Alcippe nipalensis* (Hodgs.), Blyth, J. A. S. B. xvi. pp. 448, 462; Bp. Consp. i. p. 260; Jerd., B. Ind. ii. p. 18, No. 388; Godw.-Austen, J. A. S. B. xxxix. p. 103; Hume, Str. F. 1874, p. 476; id., Str. F. 1875, p. 117; Hume and Dav., Str. F. 1878, pp. 260, 513; Hume, Str. F. 1879, p. 95; Scully, t. c. p. 287; Brooks, t. c. p. 471; Hume, Str. F. 1881, p. 206; Oates, B. Br. Burm. i. p. 68; Sharpe, Cat. B. Br. Mus. vii. p. 620. *Siva nipalensis*, Hodgs., Ind. Rev. p. 89.—THE NEPAUL QUAKER-THRUSH.**

Above fulvous brown; the top of the head, nape and upper back ashy brown; a streak of dusky blackish along the sides of the crown; ear coverts and sides of the neck paler; lores, feathers in front of and round the eye whitish ashy; chin and cheeks slightly darker than the lores; back, scapulars, wing coverts, rump, upper tail coverts and tail fulvous brown; primary coverts and quills dusky brown, edged on the outer web with fulvous brown, the innermost secondaries entirely fulvous brown; under surface of the body ochraceous or pale buff, deeper on the sides and flanks; and more whitish on the centre of the abdomen; under tail coverts ochraceous buff; under wing coverts and axillaries buffy white. Bill grey or livid horny; the base of the upper mandible and a line along the culmen black; feet livid fleshy; iris hazel brown.

*Length*.—5·0 inches; wing 2·35; tail 2·4; tarsus 0·8; culmen 0·55.

*Hab.*—Eastern Himalayas, hills of N.-E. Bengal, ranging into Tenasserim. It has been procured in Nepaul, Sikkim, the Khasia and Daffa hills, Bhootan, Cachar and Darjeeling. In the latter, Jerdon says, it is very common, frequenting trees, either singly or in pairs, feeding chiefly on insects. Oates says it is rather local, and rare in Burmah. Hume has had specimens from the northern part of the Pegu hills; while Davison procured it in the pine forests of the Salween and on Mooleyit mountain in Tenasserim. Blyth has recorded it from Arrakan. They breed from March to May in the Himalayas. The nest is said to be deep, massive and cup-shaped. The number of eggs are three or four, moderately elongated ovals, very regular and pointed towards one end, the ground colour is white or pinkish white, and very minutely speckled all over with purplish red. Size 0·71–72 × 0·52–54.

**650. *Alcippe phaeocephala* (Jerd.), Sharpe, Cat. B. Br. Mus. vii. p. 622. *Timalia poiocephala*, Jerd., Madr. Journ. xiii. p. 169. *Alcippe poiocephala*, Blyth, Cat. B. Br. Mus. As. Soc. p. 148; Bp. Consp. i. p. 260; Jerd., B. Ind. ii. p. 18; id., Ibis, 1872, p. 298; Davison and Wenden, Str. F. 1878, p. 82; Hume, Str. F. 1879, p. 95; Blanf. t. c. p. 181; Vidal, Str. F. 1880, p. 83; Butler, t. c. p. 399.—THE NEILGHERY QUAKER-THRUSH.**

Above, including the mantle, wing coverts, outer edge of quills and all the inner secondaries fulvous brown; upper tail coverts deep fulvous brown; tail reddish brown washed externally with rufous; head and nape light ashy grey; no blackish band down the sides of the crown; lores dull whitish; sides of face and ear coverts light brown with whitish shaft lines to the latter

under surface of body light tawny buff, ashy whitish on the chin and white down the centre of the breast and abdomen; under wing coverts and axillaries tawny buff. Bill horny yellow at the gape and edges; legs pale fleshy; irides greenish white.

*Length.*—6 to 6·2 inches; wing 2·7; tail 2·5; tarsus 0·85; culmen 0·6.

*Hab.*—Hills of Southern India, extending as high as Kattyawar. It is recorded from Mahableswhar and Rajkote. Jerdon says it is found in all the forests of Malabar as high as North Canara, also in Coorg, Wynaad, and on the slopes of the Neilgherries. It goes singly or in small flocks, flying from branch to branch of low trees. Lives on insects. It breeds from January to June throughout the hilly regions of Southern India. The nest is usually placed about five or six feet above the ground between the forks of three twigs of some large bush, and is a deep cup, loosely put together, composed of green moss, dead leaves, moss roots and a little grass or grass stems; there is also a little wool incorporated on the outer surface. The eggs are extremely handsome, and differ much in colour and markings. Hume says those he had sent to him from Kotagherry by Miss Cockburn were moderately broad ovals, very obtuse at the larger end, and somewhat compressed towards the smaller. The ground colour, he says, is a delicate pinkish or pinkish white; thickly mottled, and speckled with spots and hair lines of deep brownish red, dark brown, and pinkish brown, and often smeared with patches and clouds of faint inky purple. Size 0·83 to 0·86 in length and 0·6 to 0·65 in breadth.

**651. *Alcippe Phayrii*.** *Blyth, J. A. S. B.* xiv. p. 601; *Hume, Str. F.* 1874, p. 476; *id. and Oates, Str. F.* 1875, p. 116; *Blyth, B. Burm.* p. 115; *Hume, Str. F.* 1877, p. 60; *Anderson, Zool. Exp. Yunnan*, p. 635, pl. xlvii.; *Hume and Dav., Str. F.* 1878, vol. i. p. 260; *id., Str. F.* 1879, p. 95; *Bingham, Str. F.* 1880, p. 179; *Oates, B. Br. Burm.* i. p. 69. *Alcippe magnirostris*, *Wald. in Blyth's B. Burm.* i. p. 115; *Hume, Str. F.* 1877, p. 96. *Alcippe fusca*, *Godw.-Aust., J. A. S. B.* xlv. p. 197; *Hume, Str. F.* 1877, p. 55; 1879, p. 95.—THE BURMESE QUAKER-THRUSH.

Above, including the wing coverts, external edges of the quills and tail feathers fulvous brown; the back the same, but with a shade of ashy; upper tail coverts rich fulvous brown; inner webs of quills and tail feathers dusky brown; head and nape ashy brown; a dark line from above the eye, extending to the sides of the hind neck; lores and base of cheeks dull white, the feathers tipped with dusky; ear coverts and cheeks unstriped fulvous brown or with very faint indications of stripes; inner webs of tail feathers brown with a slight ochraceous tinge; under surface of the body, the axillaries and under wing coverts deep fulvous; the centre of the breast and abdomen buffy whitish; upper mandible dusky brown, the lower one somewhat paler and turning to yellow at the base; iris whitish brown to pale blue; eyelids plumbeous.

*Length*.—6·2 inches; wing 2·7; tail 2·8; tarsus 0·85; culmen 0·6. The female is smaller.

*Length*.—5·5 inches; wing 2·5; tail 2·45.

*Hab*.—The evergreen forests on the eastern spurs of the Pegu hills and the low hills throughout Tenasserim, where Davison collected specimens. Captain Wardlaw-Ramsay procured it in Karennee, and Captain Bingham in the Thoungyeen Valley. It also occurs in Arrakan, Bhamo, and the Naga hills. Oates says he found the species affecting brushwood on the sides of the nullahs deep down in the valleys of the Pegu hills.

**652. *Alcippe atriceps* (Jerd.), Blyth, Cat. B. Mus. As. Soc.** p. 148, No. 390; *Bp. Consp.* i. p. 260; *Jerd.*, *B. Ind.* ii. p. 19; *Hume, Str. F.* 1879, p. 95; *Butler, Str. F.* 1880, p. 399; *Sharpe, Cat. B. Br. Mus.* vii. p. 625. *Brachypteryx atriceps*, *Jord.*, *Madr. Journ.* x. p. 250.—THE BLACK-HEADED QUAKER-THRUSH.

Above, including the back and median wing coverts, dark sandy or olive brown; the greater coverts sepia brown edged externally with fulvous brown; tail brownish olive, very indistinctly rayed across under certain lights; head, nape, and feathers round the eye and ear coverts black; lores, cheeks and entire under surface of the body white; the breast streaked with ashy and the flanks washed with fulvous; under tail coverts and thighs fulvous brown; axillaries and under wing coverts pale tawny buff; bill horny brown; legs plumbeous; iris pale orange or buff.

*Length*.—4·7 to 5·5 inches; wing 2·15 to 2·25; tail 1·9 to 2; tarsus 0·9; culmen 0·6.

*Hab*.—Southern India. It is found nearly throughout Coorg and Malabar, also in North Canara, the Wynaad and the slopes of the Neilgherries, but does not ascend as high as *A. phæocephala*. It is most abundant in the lower forests, where it frequents, in small flocks, the thickest underwood. Jerdon adds that it is continually hopping about the thick bushes with an incessant loud twittering note. It lives on insects, as mantidæ, gryllidæ, &c. It breeds on the Neilgherries during June and July, making its nest in weeds and grass, beside the bank of old walls or on the edge of a stream about 2—3 feet above the water. The eggs, 2—3 in number, are moderately broad ovals, slightly compressed towards the smaller end. The shell is satiny; the ground colour white, marked with brownish or purplish red in the shape of very tiny speckles. Size 0·75 × 0·55.

**653. *Alcippe Bourdilloni*, Hume, Str. F. 1876, p. 185; *id.*, *Str. F.* 1878, vol. ii. p. 36; *id.*, *Str. F.* 1879, p. 95; *Bourdillon, Str. F.* 1880, p. 300; *Sharpe, Cat. B. Br. Mus.* vii. p. 625.—BOURDILLON'S QUAKER-THRUSH.**



General colour above dark fulvous brown; the head like the back, *but dusky on the forehead*, which is washed with fulvous brown; wing coverts like the back; median and greater series dusky, edged with light fulvous brown; quills dark brown, externally margined with reddish brown; tail feathers dusky brown, washed with deep fulvous brown on their margins; sides of crown and ear coverts, as well as the lores and the feathers under the eye, black; cheeks, throat and chest ashy white; rest of under surface of the body fulvous brown, paler in the centre of the body and a little deeper on the under tail coverts; thighs slightly washed with ashy; axillaries and under wing coverts fulvous brown. (*Sharpe*.) Bill above black, below pale slaty; legs and feet dull brown; iris white. (*Bourdillon*.)

*Length*.—5·2 inches; wing 2·3; tail 2·1; tarsus 0·9; culmen 0·6.

*Hab.*—Travancore.

**654. *Alcippe chrysæa* (Hodgs.), Sharpe, Cat. B. Br. Mus. vii. p. 627. Siva (chrysotis) chryseus, Hodgs., Icon. ined. in Brit. Mus. App. pl. 122. Proparus chrysotis, Hodgs., J. A. S. B. xiii. p. 938 (1844); Blyth, op. cit. xvi. p. 448. Proparus chrysæus, Jerd., B. Ind. ii. p. 256; Hume, Str. F. 1879, p. 104.—The YELLOW-BREASTED QUAKER-THRUSH or HILL-TIT.**

Above, including the lesser and median wing coverts, ashy grey; the lower back and rump washed with olive green; a longitudinal band of rich orange yellow on the wings formed by the yellow margins to the secondaries, which are also tipped with white; primaries, coverts and greater series black, the former with narrow yellow margins on some of the feathers; quills black, the outer primaries margined with yellow, becoming paler towards the tips; tail feathers dark ash margined with golden yellow; head darker than the back, blackish on the forehead and lores; ear coverts silvery grey; throat silvery ash grey; under surface of the body bright yellow; axillaries and under wing coverts dusky, margined with yellowish white. Bill plumbeous; legs pale fleshy; iris brown.

*Length*.—4 to 4·75 inches; wing 2 to 2·2; tail 2; tarsus 0·85; culmen 0·4.

*Hab.*—Eastern Himalayas. Recorded from Nepal and Darjeeling. Jerdon says it is not very common in Sikkim. According to Hodgson it breeds near Darjeeling and in the central region of Nepal, laying three to four eggs, which are figured as somewhat broad ovals, measuring 0·7 × 0·5, with a pinky white ground, speckled and spotted thinly, except towards the large end, where there is a tendency to form a cap or zone with brownish red. The nest is entirely composed of dry bamboo leaves and broad blades of grass loosely interwoven, and with a little grass and moss roots as lining.

Gen. **Yuhina**.—Hodgs.

Bill rather long and slender, much compressed beyond the nares; tip of upper mandible slightly inclined with three serratures, forming minute teeth on each side not always distinguishable; a few weak rictal bristles, wing as in *Ixulus*; tail moderate nearly even (*Ferd.*); head crested, its feathers lengthened and longer than the culmen. Jerdon says they are usually found in small flocks in the wild uplands of the Himalayas, preferring the lower and more umbrageous trees. They feed on viscid stony berries and seeds, also tiny insects from the inside of flowers.

*Yuhina gularis.*

**655. *Yuhina gularis*, Hodgs., *Asiat. Res.* xix. 166; *id.*, *J. A. S. B.* vi. p. 231; *Bp. Consp.* i. p. 397; *Ferd.*, *B. Ind.* ii. p. 261, No. 626; *Hume, Nests and Eggs, Ind. B.* p. 396; *Blyth and Wald.*, *B. Burm.* p. 110; *Hume, Str. F.* 1879, p. 104; *Scully l. c.* p. 321.—The STRIPE-THROATED YUHINA.**

Above, including the least wing coverts, brown; the lower back and rump with a strong fulvous wash; median and greater coverts, with their outer edges rufescent; primaries and their coverts blackish; the primaries margined with ashy near the tips; *secondaries edged exteriorly with orange*; tail dull brown, their inner webs dusky, also at the tips; head fully crested, the feathers long and recurved; the whole crown brown, washed with ashy, especially on the nape and tips of the long crest feathers; lores mottled with fulvous; ear coverts ashy brown; cheeks, throat and breast pale vinous or obscure wood brown, *the throat streaked with black*; under surface of the body orange brown, or bright orange rusty; under tail coverts the same, sides of the body duller orange brown; axillaries and under wing coverts white, the outermost of the latter ashy. Bill fleshy brown, the culmen dark brown; legs deep orange; iris brown or dark brown.

*Length.*—5·6 to 6·6 inches; wing 3; tail 2·3 to 2·5; tarsus 0·9; culmen 0·7.

*Hab.*—Eastern Himalayas, from Nepaul to Bhootan. It is recorded from Sikkim and Arrakan, also from Darjeeling and Nepaul. According to Jerdon it is common and abundant near Darjeeling, ascending as high as from 4,000 to 10,000 feet. It associates in large flocks of 15—20 or more. Parties like these fly from tree to tree, alight on the middle of the trunk and ascend or climb over the mossy trunk looking for insects till they gain the summit. Hume has it from Hodgson's notes, that the species breeds from April to

July, building a large massive nest of moss, lined with moss roots, and wedged either into a fork of a branch or between ledges of rocks. The eggs are figured as rather elongated ovals,  $0.8 \times 0.56$ , with a pale buffy or *café au lait* ground colour, thickly spotted with red or brownish red, the markings forming a confluent zone about the large end.

**656. *Yuhina occipitalis*, Hodgs., *Asiat. Res.* xix. p. 167; *id.*, *J. A. S. B.* vi. p. 231 (1837); *Bp. Consp.* i. p. 397; *Ferd.*, *B. Ind.* ii. p. 261, No. 627; *Gould, B. Asia*, pt. xv.; *Hume, Str. F.* 1879, p. 104; *Scully, t. c.* p. 321; *Sharpe, Cat. B. Br. Mus.* vii. p. 633. *Polyodon occipitalis*, *Hodgs., Icon. ined. in Brit. Mus. Passeres*, pl. 68.—The SLATY-HEADED OR ORANGE-NAPED YUHINA.**

Above, including the wing coverts, brown, tinged fulvescent on the rump; back, scapulars, tertiaries, outer webs of the quills and of the tail feathers olive brown; the primaries black, edged on the outer web with olive brown and near the tip ashy; crest dark ashy brown, tinged with rusty in some specimens, the long feathers and nape tipped with ashy; a narrow band of orange rufous behind the nape, extending from eye to eye; the lores dull orange rufous; the ear coverts dull ashy brown with whitish shaft streaks; chin, throat and breast, also the lower neck, vinous buff; an indistinct black moustachial streak; abdomen and under tail coverts orange buff; the lower breast and sides pale ashy brown; under wing coverts and axillaries white. Bill fleshy red; legs orange buff; iris brown.

*Length*.—5 to 5.25 inches; wing 2.5; tail 2; tarsus 0.65; culmen 0.65.

*Hab.*—Eastern Himalayas, from Nepal to Bhootan; recorded from Nepal, Darjeeling and Sikkim 10,000 feet.

**657. *Yuhina nigrimentum*, Hodgs., *Icon. ined. in Brit. Mus. Passeres*, pl. 66, figs 12 (No. 697); *id.*, *J. A. S. B.* xiv. p. 562; *Ferd.*, *R. Ind.* ii. p. 262, No. 628; *Hume, Str. F.* 1879, p. 104; *Sharpe, Cat. B. Br. Mus.* vii. p. 634.—The BLACK-CHINNED YUHINA.**

Above, including the lesser and median wing coverts, dull olive brown; the mantle shaded with ashy; greater series of coverts, also the primary coverts and quills, dusky brown, edged externally with dull olive brown; tail dusky brown, also edged on the outer web with olive brown; head and nape slaty grey, the feathers of crest blackish, edged with slaty grey; lores, base of mandible and chin black; ear coverts ashy grey; cheeks and throat white; remainder of the under surface, including the under tail coverts, fulvous or rufescent brown; the sides of the breast shaded with ashy; under wing coverts fulvous. Bill dusky above; the lower mandible red; feet reddish yellow; iris brown.

*Length*.—4.1 to 4.25 inches; wing 2.1 to 2.2; tail 1.55; tarsus 0.6; culmen 0.55.

The young, Mr. Sharpe describes as browner in colour, upper tail coverts being somewhat rufescent; quills and tail feathers margined externally with rufescent brown instead of dull olive brown; head ashy brown, the crest being dingy black; lores and chin spot black as in the adult; the under surface whitish, washed with fulvous.

*Hab.*—The Himalayas, extending eastwards into the Naga hills and to the borders of Moupin and Szetchuen. It is recorded by Sharpe from N.-W. Himalayas, Nepaul and Sikkim. Reid, in his Catalogue of Birds in the Provincial Museum at Lucknow, notes it from Ranibagh, Himalayas and Kumaon. According to Jerdon, it is a rare bird. It is said to breed near Moupin, but Hume notes a nest taken by Mr. Gammie on the 17th June below Rungbee, at an elevation of about 3,500 feet, which was placed in a large tree at a height of about 10 feet from the ground and contained four hard set eggs. The nest is said to be a mere pad of moss below, mingled with a little wool and moss roots, and above with excessively fine grass roots. The eggs are tiny, little elongated ovals, pure white and absolutely glossless, measuring 0.58 by 0.43—0.5.

#### Gen. **Myzornis**.—*Hodgs.*

Bill rather long, slightly curved, slender, entire; nostrils almost closed by an impending scale; gape with a few fine vibrissæ; wings much graduated; 4th, 5th, 6th, and 7th quills subequal and longest; tail short, even; tarsus moderate; outer toe much syndactyle; claws moderately curved, hind claw large (*Jerd.*); crest only moderately developed. Plumage soft, dense, and copious, very puffy over the rump; feathers of the head scale-like; tongue brushed. Only one species confined to the North-Eastern Himalayas.

**658. *Myzornis pyrrhura*, *Hodgs.*, *J. A. S. Beng.* xii p. 984; *id.*, in *Gray's Zool. Misc.* p. 82; *id.*, *J. A. S. B.* xiv. p. 561; *Blyth, Cat. B. As. Soc.* p. 101; *Gould, B. Asia*, pt. viii.; *Jerd.*, *B. Ind.* ii. p. 263. *Yuhina pyrrhura*, *Hodgs.*, *Icon. ined. in Br. Mus. Passeres*, pl. 67, figs. 1, 2 (No. 694); *Bp. Consp.* i. p. 397. *Myzornis pyrrhurus*, *Hume, Str. F.* 1879, p. 104.—THE FIRE-TAILED FLOWER-PECKER.**

Above grass green; wing coverts the same; the head bright emerald green; the feathers with black centres and scale-like in appearance; lores and eyelids black; primary coverts green, tipped with bluish, forming an alar speculum; quills black, tipped with white, the secondaries edged with chestnut, the innermost grass green; tail feathers dark ashy, tipped with black, reddish on their outer webs, the two centre feathers only greenish on their inner webs; a faint indication of a yellowish green supercilium; sides of the face and under surface of body grass green, with a rufous shade on the throat and breast, also on the abdomen; under tail coverts saffron yellow; axillaries and under wing coverts greenish, washed with yellow, their bases yellow. Bill dusky brown; legs fleshy; iris brown.

*Length*.—4·6 inches; wing 2·4; tail 0·9; tarsus 0·95; culmen 0·7.

*Hab*.—Eastern Himalayas. Recorded from Nepaul and Sikkim; has been found at Darjeeling. Hume says he received a single egg said to belong to this species from Native Sikkim, where it was found in May, at about 10,000 feet elevation. Hume, however, says he discredits its authenticity,—more need not be said.

**Gen. *Herpornis*.—Hodgs.**

Bill rather long; culmen 0·5, conic, compressed, strong, straight and pointed; upper mandible longer than the lower and notched; nostrils with a round aperture, shut in by a membrane; wings moderate, round, 5th and 6th quills longest, the first small; tail bifurcate; legs and feet moderately strong. A single species in India; two others belong to the Malayan peninsula and the Burmese countries.

**659. *Herpornis xantholeuca* (Hodgs.), Blyth and Wald., *B. Burm.* p. 110; Blyth, *Cat. B. Mus. As. Soc.* p. 101; *Ferd.*, *B. Ind.* ii. p. 264; Hume, *Str. F.* 1874, p. 479; 1875, p. 142. *Iora xantholeuca*, Hodgs., *Icon. ined. Br. Mus. Passeres*, pl. 177, figs. 1, 2 (No. 760). *Herpornis xantholeuca*, Blyth and Wald., *B. Burm.* p. 110; *Godw.-Aust.*, *J. A. S. B.* xlv. p. 83; Sharpe, *Ibis*, 1876, p. 41; Anderson, *Zool. Exp. Yunnan, Aves*, p. 631; Hume and Dav., *Str. F.* 1878, i. p. 374; Hume, *Str. F.* 1879, pp. 104, 157; Bingham, *Str. F.* 1880, p. 190; Oates, *B. Br. Burm.* i. p. 151.—The WHITE-BELLIED FLOWER-PECKER.**

Head which is much crested, and the whole upper plumage, including the tail, upper wing coverts and tertiaries greenish yellow; the primaries and secondaries brown, externally edged with brighter greenish yellow than the back; under tail coverts bright yellow; under wing coverts pale yellow; lores ashy white; cheeks and under surface of the body also ashy white; the flanks and vent yellow; axillaries ashy white, washed with yellow; upper mandible fleshy horn colour, the edges and the whole lower mandible light flesh colour; gape yellow; mouth yellow; eyelids plumbeous; iris brown; legs and claws pinkish flesh colour.

*Length*.—4·8 inches; wing 2·65; tail 1·8; tarsus 0·7; culmen 0·55.

*Hab*.—The Indo-Burmese countries, the hill tracts of Eastern Bengal, Sikkim and Nepaul, also down the Malayan peninsula. Oates says it is found in all the forests of Pegu, alike in the hills and plains. It is recorded by Blyth from Arrakan. In Tenasserim Mr. Davison found it distributed throughout the evergreen forests, and, according to Captain Bingham, it is very common in the Thoungyeen Valley. It affects forests only. Oates adds that he generally found it in large companies, each flock scattered over several contiguous trees, under the leaves of which the birds were searching for minute insects on which they feed. They keep up a continuous twitter. He has never been able to find the nest, and there is nothing known of the nidification of the species.

Gen. *Siva*.—Hodgs.

Bill short, somewhat conic, compressed, gently curved, and the tip entire; rectal setæ few and weak; tail with the four central feathers square and equal to the wing; feet short; hind toe long; claws well curved. Inhabitants of the Himalayas, ranging to Assam, Burmah and Tenasserim.

**660. *Siva strigula*, Hodgs., Ind. Rev. 1838; id., Icon. ined. in Br. Mus. Passeres, pl. 68, fig. 5 (No. 314); Gould, B. Asia, part xiv.; Jerd., B. Ind. ii. p. 252, No. 616; Brooks, Str. F. 1875, p. 252; Hume, Str. F. 1879, p. 104; Scully, l. c. p. 319. *Leiothrix strigula*, Gray, Gen. B. i. p. 269; Blyth, Cat. B. Mus. As. Soc. p. 99; Bp. Consp. i. p. 333. *Hemiparus strigula*, Hodgs., J. A. S. B. x. p. 29.—The STRIPE-THROATED SIVA.**

Head fully crested, dull orange; lores dull white, mottled with black bases; cheeks black, the feathers tipped with whitish; a whitish ring round the eye. Above slaty, shaded with greenish; wing coverts the same; the greater series olivaceous yellow, and the primary coverts black, forming a wing patch; quills black, edged with yellow, scarlet or deep orange; secondaries tipped with olive; the innermost black, the outer webs lavender grey tipped with black; tertiaries lavender grey tipped with white; a patch of black on the inner web, and a subterminal spot of the same colour; tail feathers black, tipped with yellowish white, the middle ones chestnut at base of the inner web, the remainder edged with yellow on both webs, the black at the base of the feathers increasing in extent towards the centre feathers; chin yellow; throat white, varied with transverse dark markings; under surface of the body and under tail coverts yellow, the sides washed with olive; under wing coverts and axillaries white, washed with yellow; lower mandible horny; feet dull grey; iris brownish red.

*Length*.—6'1 to 6'25; wings 2'7; tail 2'75; tarsus 0'95; culmen 0'6.

*Hab.*—The whole range of the Himalayas to Assam and Sikkim. It is recorded from Nepal, the hills near Mussoorie, Darjeeling, Assam and Sikkim. In Sikkim, according to Jerdon, it is tolerably common, frequenting forests from 3,000 to 7,000 feet. It goes in large flocks, keeping at a moderate height on trees, where, under the leaves, it searches for insects which are its chief food. Sharpe says, from the specimens in the British Museum Collection, that N.W. Himalayan forms are decidedly paler than Nepalese birds, but my collection of the species from Pethoragurh and Kumaon does not show this.

**661. *Siva castaneicauda*, Hume, Str. F. 1877, p. 100; id. and Dav., Str. F. 1878, i. p. 376; Hume, Str. F. 1879, p. 104; Oates, B. Br. Burm. p. 145. *Leiothrix strigula* (nec Hodgs.), Wald. in Blyth's B. Burm. p. 110; Wardlaw-Ramsay, Ibis, 1877, p. 464.—The CHESTNUT-TAILED OR ORANGE-HEADED SIVA.**

Head and crest orange brown; upper plumage with wing coverts and winglet slaty green; lores and feathers round the eye grey, mottled with black; ear coverts grey with white shafts; a broad but indistinct supercilium whitish; a long black moustachial streak; chin pale orange; throat pale yellow; primaries and secondaries dark brown, edged with yellow on the outer web; the margin tinged with orange red at the base of the second primary, and progressively more so inwards, until the last secondaries have the margins wholly orange red; the orange margins absent on the greater portion of the last three primaries; all the secondaries tipped white; tertiaries black on the inner web and at the tip of the outer web, the remainder of the feather being grey; tail black, the four outer pairs of feathers broadly edged and tipped with yellow; the central two pairs merely tipped with yellow, and the inner webs maroon for about five-sixths of their length from the base; the outer webs partially maroon near the webs; legs and feet dingy glaucous green; upper mandible dark brown; the lower fleshy; iris deep brown. (*Oates*.)

*Length*.—6 inches; tail 3; wing 2·8; tarsus 1·05; bill from gape 0·75.

Differs from *S. strigula* in having the chestnut colour on the tail much more extended, and the greater portion of both webs of the central tail feathers and inner webs of next feathers pure rich chestnut.

*Hab.*—Tenasserim. Replaces *S. strigula* of the Himalayas in Bhootan and the Burmese hills, ranging into Tenasserim. Captain Wardlaw-Ramsay got his specimens on a high mountain in Karennee about forty miles north-east of Shwaygheen at an elevation of 7,000 feet. Mr. Davison obtained it on Mooleyit mountain, where, he says, he usually met with it singly, on the outskirts of the forests among the trees dotted about the grass-land hunting about like a true Tit amongst the leaves and branches. According to Hodgson's notes the nests and eggs of this species is very similar to those of *S. cyanuroptera*.

**662. *Siva cyanuroptera*, Hodgs., Ind. Rev. ii. p. 88; Gould, B. Asia, part xiv.; Jerd., B. Ind. ii. p. 253; Hume, Nests and Eggs, Indian Birds, p. 393; Scully, Str. F. 1879, p. 319. *Leiothrix cyanuroptera*, Hume, Str. F. 1879, p. 105.**—The BLUE-WINGED SIVA.

Above yellowish brown, slightly rufescent on the lower back and rump, and ashy brown on the hind neck; forehead washed with cyaneous, the feathers streaked with dark brown; wing coverts yellowish brown; with primaries and their coverts black, the latter forming a wing patch, primaries edged externally with blue; secondaries and tertiaries tipped white, their external edges greyish; tail blackish, tipped with white, the external web of the feathers blue, the centre ones greyish, washed with blue; outermost feathers white on the inner and black on the outer web, the next edged on the inner web and broadly tipped with white; lores, feathers round the eye, supercilary streak, centre of breast, abdomen, under wing and under tail

coverts also the axillaries white, the latter tinged with vinous; ear coverts ashy brown and paler shafted; cheeks and under surface of the body pale vinous. Bill dusky yellow; legs fleshy; irides brown.

*Length*.—5·5 to 6·2 inches; wing 2·45; tail 2·45; tarsus 0·9; culmen 0·65.

Young and immature birds have not the cyaneous blue tinge on the forehead.

*Hab.*—The Himalayas, from Nepaul to Bhootan, and also in the hills of Assam and Sikkim. Common near Darjeeling, from 3,000 to 6,000 feet. Found in considerable flocks. Breeds in the central region of Nepaul and in the neighbourhood of Darjeeling during May and June. The nest (Hume quoting Hodgson) is placed in trees at no great elevation above the ground, and is wedged in where three or four slender twigs make a convenient fork. The nest is large but compact, composed of fine stems of grass, dry leaves, moss and moss roots bound together with pieces of creepers, roots, and vegetable fibres, and lined with fine grass roots. Eggs, from 3 to 4, moderately broad ovals, considerably pointed towards the small end, 0·85 in length by 0·6 in width, having a palé greenish ground, pretty thickly spotted and speckled, especially on the broader half of the egg, with a brownish brick-red.

**663. *Siva sordida*, Hume, *Str. F.* 1877, p. 104; *id. and Dav. Str. F.* 1878, p. 37; *Hume, Str. F.* 1879, p. 104; *Oates, B. Br. Burm.* i. p. 144; *Sharpe, Cat. B. Br. Mus.* vii. p. 641.**—THE BURMESE BLUE-WINGED SIVA.

Forehead, crown and nape, also the back, scapulars, wing coverts and the outer webs of the tertiaries earthy brown, very slightly paler on the latter; upper tail coverts brown, a little rufescent on the rump; lores and cheeks greyish white; ear coverts brown with pale mesial streaks; primaries brown, the outer webs purplish; secondaries the same, edged and tipped with white; primary coverts black, edged with purplish; tail with the two centre feathers brown, washed with purple and narrowly tipped with white; the exterior feathers and the whole of the inner webs white; the outer feathers brown, more broadly tipped with white, their outer webs purplish. Entire under surface white; the sides of the throat and breast, the sides and flanks much sullied; lower mandible, legs and feet whitish brown; irides creamy yellow.

*Length*.—6 to 6·2 inches; wing 2·5 to 2·6; tail 2·7; tarsus 0·89; bill from gape 0·75.

*Hab.*—The Karennie hills and those of Tenasserim, where it represents *Siva cyanuroptera*, of which it is what is usually in the present day called a race, differing only from it in wanting the white tip to the winglet, and the upper plumage being more brown. The female, according to Sharpe, is "much duller brown and only slightly brighter on the rump, showing none of the bright fulvous-brown of the Himalayan bird. The streaks on the head are scarcely perceptible, and there is no pronounced tinge of blue."



Gen. **Mesia**.—Hodgs.

Bill short, strong, wide at the base, compressed at the tip, which is bent over and slightly notched; culmen moderately curved; a few long rictal bristles; tail slightly forked; wing longer than the tail; the 4th quill generally shorter than the 5th and 6th.

**664. *Mesia argenteauris*, Hodgs., Ind. Rev. p. 88; id., Icon. ined in Br. Mus. Passeres, pl. 68, fig. 4; Hume, Nests and Eggs, Ind. B. p. 392; id., Str. F. 1879, p. 104; Oates, B. Br. Burm. i. p. 143; Sharpe, Cat. Br. Mus. vii. p. 642. *Leiothrix argenteauris*, Gray, Gen. B. i. p. 269; Bp. Consp. i. p. 332; Ferd., B. Ind. ii. p. 251, No. 615.—The SILVER-EARED MESIA or HILL-TIT.**

Forehead golden yellow; top of head, lores, cheeks, feathers round the eye and a line below the ear coverts black; ear coverts silvery white; *chin, throat and breast bright orange*; round the hind neck an orange collar; sides of the neck and upper back fulvous yellow; lower back, scapulars, tertiaries and wing coverts slaty; the greater and primary coverts narrowly fringed with yellow; quills slaty brown, the first two edged with yellow, the rest inclining to paler yellow towards the ends of the primaries; the bases of the feathers washed on the exterior web with crimson and forming a wing patch; upper tail coverts crimson; tail blackish brown, the three outer pairs of feathers edged with yellowish; the centre feathers edged with dusky at the base; under surface of the body olive green, yellower on the centre of the abdomen; under tail coverts crimson; under wing coverts and axillaries light olive; a dark olivaceous patch on the edge of the wing, which is bright yellow.

The young have the upper and under tail coverts more fulvous yellow. Bill ochre yellow, slightly greenish at the base; irides dark or reddish brown; feet fleshy yellow.

*Length*.—6 to 7 inches; wing 2·9 to 3·1; tail 2·65 to 3; tarsus 1; culmen 0·7.

*Hab.*—Eastern Himalayas, throughout the hills of N.-E. Bengal and Burmah to Tenasserim. Recorded from Nepaul, Sikkim, Khasia and the Kakhien hills, also Darjeeling and Bhootan. It was got by Captain Wardlaw-Ramsay in the Tonghoo hills and also in the Karennee hills at altitudes of from 1,500 to 4,000 feet. Davison met with it on the Mooleyit mountain in Tenasserim; near Bhamo it has been procured by Dr. Anderson, and in the hill tracts of Eastern Bengal by Colonel Godwin-Austen. Hume, quoting Hodgson, says it breeds in the lowlands of Nepaul, laying in May and June. The nest is placed on a bushy tree between two or three thin twigs to which it is attached. The structure is composed of dry bamboo and other leaves, thin grass roots and moss, and is lined inside with fine roots. Eggs, 3—4, pale green, with a few brownish red spots and specks, more closely speckled at the larger end and forming an annular zone.

Gen. *Liothrix*.—Swainson.

General character of the genus *Mesia*; upper tail coverts very long, reaching nearly to the end of the tail; tarsus long and slender; wings shorter than the tail.

**685. *Liothrix lutea*, Scop. (Blyth), J. A. S. B. xiv. p. 552; id., Cat. B. Mus. As. Soc. p. 99; Gould., B. Asia pl. iii.; Jerd., B. Ind. ii. p. 250, No. 614. *Sylvia lutea*, Scop., Del., Flor. et. Faun. Insubr. ii. p. 96. *Liothrix lutea*, Swinh., P. Z. S. 1863, p. 298; Blyth, B. Burm. p. 109; Hume, Str. F. 1879, p. 104; Sharpe, Cat. B. Br. Mus. vii. p. 644. *Liothrix luteus*, Oates, B. Br. Burm. i. p. 142. *Leiothrix callypyga*, Hodgs., Ind. Rev. ii. p. 88; Hume, Nests and Eggs, Ind. B. p. 390.—The RED-BILLED HILL-TIT.**

Above, including the wing coverts, dull olive greenish; the primary coverts and bastard wing tinged with yellow; primaries dark brown, the first seven fiery orange tinged with yellow basally, and golden yellow on the outer margins; secondaries glossy black externally, and orange at the base of their outer webs, some of the others orange yellow towards the tip of their outer webs and some margined throughout with vermilion; upper tail coverts browner than the back, with a subterminal bar of grey and tipped white; tail ashy brown, the feathers glossy black along the outer margin and at tip; head brighter yellowish green than the back; lores pale yellow; ear coverts dull grey; feathers round the eye pale yellow; a slaty moustachial streak from the bill to below the ear coverts; chin and throat deep yellow, tinged with orange and terminating in a bright orange gorget on the lower throat; breast and centre of abdomen greyish yellow, deeper on the under tail coverts; sides of the body, flanks and thighs light ashy brown washed with greenish olive; under wing coverts and axillaries light ashy. The *female* has the orange gorget paler and the flaming red of the wing replaced by orange yellow.

Sharpe says, considerable allowance must be made for the fading of colours in this species, for the way in which the green and yellow colours vanish is most remarkable, the former changing to grey and the latter becoming very pale. Bill coral red; legs fleshy brown; irides brown.

*Hab.*—Throughout the Himalayas, to the hills of N.-E. Bengal, and throughout Southern China. Common about Dehra Doon and Darjeeling, also on the Khasia hills, in Sikkim, Bhootan and the Kakhien hills. Blyth records it from Arrakan, and Dr. Anderson obtained it near Bhamo. Jerdon says it is one of the most common birds about Darjeeling. It usually associates in small parties of five or six, frequenting the dense thickets and underwood which spring up wherever the forest is partially cleared. Its food consists of berries, fruit, seeds and insects. Its usual note is a chattering call, but in the spring it has a pleasing song. It breeds from April to August at elevations of from

3,000 to 6,000 feet, throughout the Himalayas, south, as a rule, of the first snowy range and eastward of the Sutlej. It also breeds on the hill range, running from Assam to Burmah. The nest is cup-shaped and made of dry leaves and moss, bound together with grass and roots. It is generally placed in a leafy bush at no great height from the ground. The number of eggs is usually three, and, according to Hume, they vary a good deal in shape and size, but all are more or less long ovals, slightly pointed towards the lesser end. The ground colour is a very pale delicate greenish blue (some very pure white), pretty boldly blotched or spotted and speckled most thickly towards the large end forming a zone or cap, of various shades of reddish purple and brown, or brownish red. The eggs vary in size from 0·81 to 0·95 in length and in breadth from 0·6 to 0·66. The average of twenty eggs is given as 0·85 × 0·62.

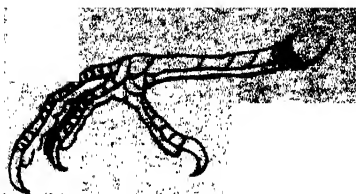
Gen. *Cutia*.—*Hodgs.*

Bill moderately long, strong at the base, higher than broad; culmen keeled and curving, once and a half as long as the distance between the front of the eye and nostrils; nares broad, lunate; rictus nearly smooth; wings moderate, falling short of the tail by only a trifle; first three quills graduated; 4th and 5th longest; tail short, nearly square; tarsus clumsy and strong, almost smooth, not exceeding in length the midtoe and claw; upper tail coverts long.

**666.** *Cutia nipalensis*, *Hodgs.*, *J. A. S. B.* v. p. 774; *id.*, *op cit.* vi. p. 112; *Blyth*, *J. A. S. B.* xi. p. 183; *Gould*, *B. Asia*, pt. 8; *Ferd.*, *B. Ind.* ii. p. 247, No. 612; *Wald.* in *Blyth's B. Burm.* p. 109; *Bulger*, *Ibis*, 1869, p. 167; *Wardlaw-Ramsay*, *Ibis*, 1875, p. 352; *Walden*, *I. c.* p. 459; *Hume and Dav.*, *Str. F.* 1878, i. p. 370; *Hume*, *Str. F.* 1879, p. 104; *Oates*, *B. Br. Burm.* i. p. 140.—THE CHESTNUT-BACKED SHRIKE-TIT.

PLATE at p. 122.

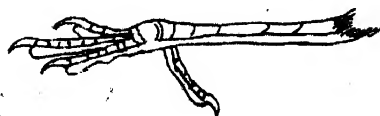
A broad band enveloping the lores, sides of the forehead, feathers above and below the eye and the ear coverts, extending round and meeting on the hinder neck black; crown of the head and nape slaty blue; a black spot at the base of the lower mandible; hind neck, back, rump and upper tail coverts bright chestnut; scapulars ochraceous brown, washed with orange; wing coverts black, the edges glossy black; quills black, edged externally with slaty grey, broader on the inner secondaries, which are tipped with black; tips of the primaries with usually a small white spot; tail black, the outer feathers narrowly edged with white at the tip, and the centre ones orange at the base for more than one-half their length, but this colour is concealed by the very long upper tail coverts; chin, throat, cheeks and under surface of the body white, shaded with yellowish buff on the flanks, lower abdomen and long under tail coverts; sides of the breast and the flanks boldly barred with black; under wing and tail coverts white. Bill blackish above, plumbeous below; legs orange yellow; iris brown.



*Accentor Nipalensis.*



*Parus sultaneus.*



*Liothrix lutea.*



*Length*.—6·5 inches; wing 3·55; tail 2·3; tarsus 1·05; culmen 0·85.

The adult female has the back ochraceous brown, the slaty head of the male is much paler; the band round the head chocolate brown; the back and scapulars reddish brown with large ovate spots of black; ear coverts brown. Length 7 inches; wing 3·4; tail 2·4; tarsus 1·05.

*Hab.*—Himalayas to Bhootan and the Dafia hills in Assam, extending into Karennee. Jerdon found it common near Darjeeling and at Sikkim, frequenting large trees in small flocks.

### Family.—PARIDÆ.

Tarsus generally short or moderate; feet fitted for perching; wings and tail moderate; bill various, strong, somewhat conic; plumage variegated. All are arboreal in their habits.

### Sub-Family.—PARINÆ.

Bill typically rather short, less than the head in length, somewhat conic, stout, and without a notch; nostrils lateral or basal, the nares tufted; wings moderate, rounded, 3rd to 5th primaries longest, the first very short; tail varying in length and shape, long in a few only; tarsi and feet short and stout; hind toe long; claws curved; plumage soft, woolly and lax. In colour they are mostly sober compared with the *Liotrichinæ*; the principal colours however are white, black, yellow and blue; crown of the head generally crested. All the species are non-migratory, and are chiefly confined to the Himalayas; a few only extend to the hill regions of Central and Southern India. In their habits they are strictly arboreal, actively climbing about and clinging to the twigs and flowering branches of trees and continually flitting from spray to spray, and suspending themselves in all kinds of attitudes. They are noted for the peculiarly elegant construction of their nests, which are composed of the softest materials; and many of them are fastened to the extreme end of a small branch that projects over water; they also nidificate in holes of trees or even in walls, and occasionally on the ground. A few build pendulous nests. Their principal food consists of insects, which they find in the opening buds or in flower cups, but they also feed on seeds and fruits. They are indefatigably industrious.

### Gen. *Parus*.—*Lin.*

Bill short, subulate, more or less conical, blunt at tip and without a notch; nostrils round, hidden by recumbent frontal feathers; tail rounded or square; tarsus scutate; head often crested. The well-known genera, *Lophophanes*, *Cyanistes*, *Melanochlora*, and *Machlolophus*, have all, at the hands of Dr. Gadow, become synonyms of *Parus*.

**667. *Parus sultaneus*,** *Hodgs., Ind. Rev.* p. 31 (1831); *Blyth, J. A. S. B.* xiii. p. 943; *Gadow, Cat. B. Br. Mus.* viii. p. 6. *Parus flavocristatus*, *Lafr. Mag. Zool.* 1837, pl. 80; *Blyth, Cat. B. Br. Mus. As. Soc.* p. 102; *Gould, Birds Asia*, pt. xx., pl. 150. *Melanochlora sultanea*, *Ferd., B. Ind.* ii. p. 282, No. 650; *Walden, P. Z. S.* 1866, p. 551; *Hume and Dav., Str. F.* 1878, i. p. 378; *Hume, Str. F.* 1879, pp. 64, 105. *Melanochlora flavocristata*, *Cab. Mus. Hein.* i. p. 92; *Blyth and Walden, B. Burm.* p. 111.; *Oates, B. Br. Burm.* i. p. 129.—The SULTAN YELLOW-TIT.

Forehead and crown with a long pointed crest brilliant yellow; also the breast, abdomen, under tail coverts and axillaries; under wing coverts blackish, tipped with yellow; whole upper plumage, lores, sides of the head and neck, chin, throat and breast deep glossy black. Bill black; feet slaty; iris dark brown.

The female has the yellow parts duller than in the male; sides of the head and upper plumage dark greenish brown; chin and throat, yellowish; wings and tail dull black.

*Length*.—7 to 8 inches; wing 4 to 4·2; tail 3·4 to 3·6; tarsus 0·95 to 1. The female is smaller; wing only 3·7; tail 3·3.

*Hab.*—The warmer valleys of the Himalayas through Assam and Burmah, and Malacca to Sumatra. Common, according to Jerdon, near Darjeeling, in the great valley of the Runjeet. Oates says it is abundant over the whole of the Pegu hills; Blyth got it from Arrakan, and Mr. Davison found it throughout the whole division of Tenasserim, except on the higher hills. It has been procured by Captain Wardlaw-Ramsay in Karennee. In the hill ranges of Eastern Bengal and in Assam and Sikkim, it is fairly abundant. Nothing is known of its nidification in India.

**668. *Parus cinereus*,** *Bonn. et. Vieill. Tabl. Cont. Meth.* p. 506, (1823), *ex Levaill*; *Blyth, J. A. S. B.* xvi. p. 460; *Bp. Consp. Av.* p. 229; *Kelaart, Prod. Cat.* p. 121; *Gould, B. Asia*, pt. x., pl.; *Ferd., B. Ind.* ii. p. 278; *Walden, Ibis*, 1869, p. 315; *Heldsw., P. Z. S.* 1872, p. 460; *Hume and Henders, Lahore to Yarkand*, p. 167; *Cock and Marsh, Str. F.* 1873, p. 384; *Ball, Str. F.* 1874, p. 417; *Wardlaw-Ramsay, Ibis*, 1880, p. 62; *Gadow, Cat. B. Br. Mus.* viii. p. 16. *Parus atriceps*, *Horsf., Trans. Lin. Soc.* xiii. p. 160; *Sykes, P. Z. S.* 1832, p. 92; *McLell., P. Z. S.* 1839; *Temm. Pl. Col.* 207, fig. 2; *Sykes, P. Z. S.* 1832, p. 92; *Ferd., Madr. Journ.* 1840, p. 7; *Legge, B. Ceylon*, p. 557; *Oates, B. Br. Burm.* p. 125. *Parus nipalensis*, *Hodgs., Ind. Rev.* p. 31; *Blyth, J. A. S. B.* xi. p. 459; *Blyth and Wald., B. Burm.* p. 112; *Scully, Str. F.* 1879, pp. 329-367; *Blanf., J. A. S. B.* 1869, ii. p. 181. *Parus cæsius*, *Tick., J. A. S. B.* (*fide auctt.*); *Swinhoe, P. Z. S.* 1871, p. 361; *Hume, Nests and Eggs, Ind. B.* ii. p. 405; *Brooks, Str. F.* 1875, p. 253; *Butler, ibid*, 1875, p. 491; *Hume, ibid*, 1876, p. 402; *Hume and Dav., ibid*, 1878, p. 376; *Dav. and Wenden, ibid*, 1879, p. 95. *Parus commixtus*, *Swinh., Ibis*, 1868, p. 63; *Blyth and Wald., B. Burm.* p. 111; *Hume, Str. F.* 1878, i. p. 376.—The GREY INDIAN TITMOUSE.

Forehead and crown to the nape, also the chin, throat, and a large patch on the breast, continued as a mesial abdominal line to the vent black; sides of the neck black, connecting the black of the nape and breast; under surface of the body pale rufescent ashy; upper tail coverts, and lesser and median wing coverts ashy blue; greater coverts black, tipped with whitish; primary coverts and quills blackish, edged externally with ashy blue; outer tail feathers white, brown at the base; the next pair bluish on the outer web and white terminally, the inner webs blackish with a white stripe, the third outer pair with a small white tip; the remainder blackish on the inner and bluish on the outer webs. Bill black; iris brown; legs and feet plumbeous.

*Length*.—5·5 inches; wing 2·6; tail 2·6 to 2·8; tarsus 0·65; culmen 0·46.

*Hab.*—Nearly all over India from the Himalayas to Ceylon, also in Affghanistan. Extends to the southern half of China as well as to Java and Lombock. It is found in Nepaul, Bhootan, Assam and through Central India to the Neilgherries. It extends all along the range of western ghauts north to Khandeish. Occurs also in the hilly regions of Nagpore and at Saugor. Gilgit, Cashmere, Peshawur, Mussoorie, Simla, Kumaon, Nepaul, Behar, Khandeish, Madras, Travancore, Bhootan, Upper Assam and Bhamo, are given as localities. Oates says it is irregularly distributed over Pegu. He found it at Thayetmyo, and again met with it west of the Irrawaddy, towards the foot of the Arrakan hills. In Tenasserim it is rare. It is a familiar bird wherever found. It is known to breed in the Himalayas and on the Neilgherry hills. Hume says,—throughout the more wooded mountains of the Empire, wherever these attain an altitude of 5,000 feet to even 9,000 feet. In the Neilgherries the breeding season is from February to May, and in the Himalayas from March to June. The nests are placed in holes in banks, in walls of buildings or of terraced fields, in outhouses of dwellings or deserted huts and houses, and in holes in trees, and, very frequently, in deserted nests of Woodpeckers and Barbets. The eggs are a broad oval, but somewhat elongated and pointed towards the smaller end. Colour pinkish white, sprinkled with pale purplish, thickly so towards the large end, where they form a heavy zone of red blotches, spots and streaks. Size 0·65 to 0·7 in length, and in breadth from 0·5 to 0·58.

The North-Western race (Affghanistan and Turkestan) is named *P. bocchariensis*. It is said to be a larger and paler race, being pale or french grey above.

**669. *Parus monticolus*, Vigors, P. Z. S. 1830, p. 22; Gould, Cent. Him. B. pl. 29, fig. 2; Ferd., B. Ind. ii. p. 277, No. 644; Brooks, Str. F. 1875, p. 253; id., 1879, p. 487; Scully, op. cit. 1879, p. 323, Gadow, Cat. B. Br. Mus. viii. p. 21.—THE GREEN-BACKED TIT.**



Crown of the head, sides of neck, chin, throat, breast and middle of the abdomen glossy blue black; ear coverts and patch on the occiput white; hind neck yellow; quills black, edged externally with blue at the base and white terminally; secondaries and tertiaries broadly tipped with white; median and greater coverts black, edged with blue on their outer margin and tipped with white, forming two wing bars; lesser coverts grey; back and rump olive green; upper tail coverts and tail blackish, strongly tinged with blue, the latter with white tips, the outer pair with the outer web white for some distance; under tail coverts, thighs, and some of the feathers of the lower abdomen black, with white tips; rest of the under surface of the body sulphur yellow, the flanks tinged with greenish. Bill black; legs plumbeous; iris brown.

*Length*.—4·5 inches to 5·2; wing 2·5 to 2·62; tail 2·2 to 2·5; tarsus 0·75; culmen 0·5.

*Hab.*—Himalayas and the mountain regions of Assam and Southern China. According to Jerdon it is very common in the Himalayas, descending lower than about 5,000 feet. It is also common on the top of the Khasia hills, and about Darjeeling, Dhurmsala, Simla, Murree, Nepaul, Sikkim and Bhootan. It breeds throughout the Himalayas at elevations of from 4,000 to 8,000 feet from March to June. Eggs, 4—5 in number, not unlike those of the preceding species, but smaller.

**670. *Parus xanthogenys*, Vigors, P. Z. S. 1831, p. 23; Gould, Cent. Him. B. pl. 22, fig. 1; Ferd., Madr. Journ. xi. p. 7; Blyth, Cat. B. Mus. As. Soc. p. 103; Hutton, J. A. S. B. xvii. pt. ii., p. 960; Gould, B. Asia pt. ix., pl. 14; Gadow, Cat., B. Br. Mus. viii. p. 25. *Machlolophus xanthogenys*, Cab. Mus. Hein. p. 91; Ferd., B. Ind. ii. p. 279; Brooks, Ibis, 1875, p. 253.**—The YELLOW-CHEEKED TIT.

Crown of the head, which is fully crested, black; occiput, lores, cheeks, sides of the neck, superciliary stripe and breast bright yellow, also the posterior part of crest; chin, throat, a line down the middle of the breast and the centre of the abdomen black; flanks and axillaries dull greenish yellow; under tail coverts pale yellow; mantle, back and rump olive green; scapulars black, edged with olive green; wing coverts black, broadly tipped with pale yellowish white; quills black, the innermost secondaries largely tipped and edged with white; the outer ones with narrow tips and greyish edges; outer primaries edged externally with white, and with white bases forming a white bar or alar band; upper tail coverts edged with bluish grey; tail black, tipped with white, the outer webs of some of the feathers bluish grey and the outer pair with the whole outer web white; thighs pale yellowish white. Bill black; legs plumbeous; iris light brown.

The flanks, sides of breast and abdomen of the immature birds are dull yellow, and the black on the abdominal region is not developed.

*Length*.—5·25 inches; wing 2·5 to 2·95; tail 2·05 to 2·25; tarsus 0·7 to 0·75; culmen 0·46 to 0·52.

*Hab*—The N.-W. Himalayas to Nepaul. Noted from Simla, Murree, Mussoorie, Behar and Nepaul. It is one of the commonest birds in the neighbourhood of Simla, where and at Dhurmsala, also at Mussoorie, it breeds at elevations from 4,000 to 7,000 feet. The eggs, according to Hume, are regular, somewhat elongated ovals, in some cases slightly compressed towards one end. The ground is white or reddish white, thickly spotted, speckled and even blotched with brick-dust red. Size 0·7—78 × 0·52—55.

**671. *Parus haplonotus*, Blyth, *J. A. S. B.* xvi. p. 44; *Gadow, Cat. B. Br. Mus.* viii. p. 25, sub-sp. a. *Parus xanthogenys*, *Ferd. (nec. Vigors), Madr. Journ.* xi. p. 7. *Parus jerdoni*, Blyth, *J. A. S. B.* xxv. p. 445; *Gould, B. Asia*, pt. i. *Machlolophus Jerdoni* (Blyth), *Ferd., B. Ind.* ii. p. 280, No. 648; *Ball, Str. F.* 1874, p. 417; *Butler, Str. F.* 1875, p. 492; *Hume, Str. F.* 1876, p. 260; *Fairbank, Str. F.* 1877, p. 407. *Machlolophus aplonotus*, *Hume, Str. F.* 1878, ii. p. 405; 1879, p. 105.—The SOUTHERN YELLOW TIT.**

Similar to the last, but conspicuously larger, the back is olive grey and the tips of the greater and median wing coverts are pure white; head, sides of neck and breast pale yellow; flanks and part of the abdomen greenish grey; crest feathers plain black. Bill black; legs plumbeous; iris light brown.

*Length*.—5·75 to 6 inches; wing 2·9 to 3·15; tail 2·2 to 2·5; tarsus 0·78 to 0·8; culmen 0·5 to 0·55.

*Hab*.—Southern and Central India. Recorded from Ootacamund, Travancore, Madras, the Western Ghats and Saugor; also in Coorg, Wynaad and all along the range of ghauts; in the Vindhyan range of mountains near Mhow, and the jungles south-east of Nagpore. It is the southern representative of *P. xanthogenys*. I have no information as to its nidification.

**672. *Parus spilonotus*, Blyth, *Cat. B. Mus. As. Soc.* p. 103; *id., in Ferd. Contr. Orn.* p. 49, fig. 2; *Gadow, Cat. B. Br. Mus.* viii. p. 26. *Machlolophus spilonotus*, *Cab. Mus. Hein.* i. p. 91; *Gould, B. Asia*, pt. ix. pl. 15; *Blyth and Walden, B. Burm.* p. 112; *Hume and Dav., Str. F.* 1878, p. 377; *Oates, B. Br. Burm.* i. p. 128. *Parus subviridis*, *Tickell, J. A. S. B.* xxiv. p. 267. *Machlolophus spilonotus*, *Ferd., B. Ind.* ii. p. 281, No. 649. *Machlolophus subviridis*, *Blyth and Walden, B. Burm.* p. 112.—The BLACK-SPOTTED YELLOW-TIT.**

Intermediate in size between *P. xanthogenys* and *P. haplonotus*, but much brighter coloured; upper back yellowish green, with broad black longitudinal spots; lower back olive brown; crest long, the posterior feathers broadly tipped with bright yellow; occiput, nape, lores, feathers round the

eye, a broad supercilium, cheeks, ear coverts and sides of the neck bright yellow; tertiaries tipped, but less conspicuously margined with white; throat and front of the neck not so broad as in *xanthogenys*; lesser wing coverts black, tipped with slaty; median coverts black, tipped with white; quills black, the first two plain and the next three edged with white; bases of 2nd to 8th primaries with a patch of white; tail black edged with slaty; outer feathers entirely white on outer web, the rest, except the central ones, tipped with white. Bill black; legs plumbeous; iris light brown.

*Length*.—5·5 inches; wing 2·8; tail 2·15; tarsus 0·72; culmen 0·55.

*Hab*.—Eastern Nepaul, Sikkim, Khasia, hills of Assam, also Bhootan, extending into Tenasserim. Jerdon says it is common about Darjeeling, and is chiefly found from 4,000 to 5,500 feet. According to Davison, not unlike other species of the genus, it keeps about the tops of large trees, especially those about the open camping grounds.

**673. *Parus melanolophus*.** *Vigors, P. Z. S.* 1830, p. 22; *Gould, Cent. Him. B.* pl. 30, fig. 2; *Jerd., Mad. Journ.* xi. p. 8; *Gould, B. Asia*, pt. xi.; *Biddulph, Ibis*, 1881, p. 12; *Gadow, Cat. B. Br. Mus.* viii. p. 28. *Macholophus melanolophus, Cab. Mus. Hein.*, i. p. 91. *Lophophanes melanolophus, Jerd., B. Ind.* ii. p. 273, No. 635; *Brooks, Str. F.* 1875, p. 253; *Wardlaw-Ramsay, Ibis*, 1880, p. 61.—The CRESTED BLACK-TIT.

Crown of the head and hind neck glossy black; the long recurved crest also black; lores, space below the eyes, ear coverts, cheeks, and a patch on the nape white; chin, entire throat and upper breast deep black; mantle, back, upper tail coverts and lesser wing coverts dark iron grey; quills ashy grey, margined on their outer webs with dark iron grey of a slightly bluish tinge, the secondaries narrowly tipped with white; greater and median wing coverts ashy grey with buffish white spots terminally; tail ashy grey, margined externally with dark iron grey; lower breast, abdomen and flanks iron grey, tinged with rufous; sides of the breast, axillaries, under wing and under tail coverts rufous. Bill blackish; legs plumbeous; iris pale brown.

*Length*.—4·25 to 4·5 inches; wing 2·3 to 2·5; tail 1·75; tarsus 0·68; culmen 0·4.

Immature birds have the general colour above dull ashy grey; the crown of the head black with a short crest and the white on the nape little developed; the cheeks and ear coverts are dingy white. (*Gadow*.)

*Hab*.—N.-W. Himalayas, ranging into Eastern Afghanistan. Common at Simla, Mussoorie, Murree and Sikkim.

**674. *Parus rufonuchalis*,** *Blyth, J. A. S. Beng.* xviii. p. 810; *Gould, B. Asia*, pt. xi.; *Biddulph, Ibis*, 1881, p. 72; *Scully, Ibis*, 1881, p. 568; *Gadow, Cat. B. Br. Mus.* viii. p. 29 *Lophophanes rufonuchalis, Jerd.*,

*B. Ind.* ii. p. 273, No. 640; *Hume and Henderson, Lahore to Yarkand*, p. 167; *Brooks, Str. F.* 1875, p. 253; *Wardlaw-Ramsay, Ibis*, 1880, p. 62. *Lophophanes Beavani, Ferd., B. Ind.* ii. p. 275, No. 641. *Parus Beavani, Brooks, Str. F.* 1879, p. 487. *Parus Atkinsoni, Ferd., B. Ind.* ii. p. 273, No. 643; *Blanford, J. A. S. B.* xii. pt. ii., p. 57; *id., Str. F.* 1879, p. 183; *Hume, t. c.* p. 189.—THE RUFOUS-NAPED OR SIMLA BLACK-TIT.

Crown of the head, including the crest, also the hind neck, chin, throat and breast glossy black; nape pale ferruginous; cheeks, ear coverts and sides of the neck white; lower breast, abdomen and flanks dark grey with a rufescent tinge; axillaries and under tail coverts ferruginous; under wing coverts dark brown, edged with ashy white; mantle and back dark grey washed with olivaceous; wing coverts and quills margined externally with iron grey; tail ashy grey, margined with iron grey on the outer webs of the feathers. Bill black; legs and feet plumbeous; iris brown.

*Length.*—5 to 5·5 inches; wing 2·7 to 3; tail 2·1 to 2·25; tarsus 0·8; culmen 0·52.

*Hab.*—The Himalayas, and from Samarkand to Afghanistan to the mountains of Southern China. Dr. Gadow's record of the British Museum specimens shows the following localities,—Gilgit and Cashmere, China, Nepaul, Sikkim, Darjeeling and Khasia hills, to which has to be added Simla up to the snowy line.

**675. *Parus rubidiventer*, Blyth, J. A. S. B.** xvi. p. 445 (1847); *id., Cat. B. Mus. As. Soc. Beng.* p. 104; *Gould, B. Asia*, pl. xi; *Gadow, Cat. B. Br. Mus.* viii p. 30. *Machlolophus rubidiventris, Cab. Mus. Hein.* i. p. 91. *Lophophanes rubidiventris (Blyth), Ferd. B. Ind.* ii. p. 274, No. 639; *Dav. and Oust. Ois. Chine*, p. 284.—THE RUFOUS-BELLIED CRESTED-TIT.

Head and crest black; a large white spot on the cheeks from the base of the lower mandible; ear coverts and sides of the neck white; throat dull black; upper surface of the body pale rufescent grey, strongly tinged on the rump with ferruginous; wings, tail and wing coverts uniform ashy grey without any spots of white; breast, abdomen, flanks, under wing and under tail coverts buff, tinged with greyish. Bill blackish; legs plumbeous; irides brown.

*Length.*—5 inches; wing 2·45 to 2·55; tail 1·8; tarsus 0·75; culmen 0·43.

*Hab.*—The N.-W. Himalayas, Nepaul.

Very little seems to be known of the Rufous-bellied Crested-Tit. There are only five skins in the British Museum collection, and from an examination of these, Dr. Gadow says: "one might suppose that this bird is the female of *P. rufonuchalis*, but in the British Museum are specimens which were distinctly marked as males, and show the colours above described." It does not appear to have been met with by any of Mr. Hume's numerous correspondents, nor is there any reference to the species in the pages of "Stray Feathers."

**676. *Parus dichrous*, Hodgs. in Gray's Zool. Misc. (1844), p. 83; id., *J. A. S. B.* xiii. p. 943; id. *Ann. Nat. Hist.* xv. p. 236; Blyth's *Cat. B. Mus. As. Soc.* p. 104; Gould, *B. Asia*, pt. xi.; Gadow, *Cat. B. Br. Mus.* viii. p. 33. *Lophophanes dichrous* (Hodgs.), *Jerd., B. Ind.* ii. p. 273, No. 637.—The BROWN-CRESTED TIT.**

Forehead and sides of the head, also sides of the neck, forming a demi-collar dirty or creamy white; crown of the head, including the long recurved crest, brownish grey; under surface of the body, including the under wing coverts, pale ochraceous, washed with greyish on the flanks and on the throat. Bill dusky bluish; feet plumbeous; iris brick red.

*Length.*—4·5 to 5 inches; wing 2·8; tail 2; tarsus 0·8; culmen 0·45.

*Hab.*—Throughout the Himalayas, from Cashmere eastwards and in the hills of Moupin. It is found about Simla and Mussoorie, also in Nepaul and Darjeeling. Jerdon mentions a specimen obtained by Adams on the oak covered slopes of one of the lesser ranges near the valley of Cashmere.

**677. *Parus modestus* (Burton), Gadow, *Cat. B. Br. Mus.* viii. p. 33. *Sylviparus modestus*, Burton, *P. Z. S.* 1835, p. 154; Blyth, *Cat. B. Mus. As. Soc.* p. 104; *Jerd., B. Ind.* ii. p. 267, No. 632. *Parus sericophrys*, Hodgs., *J. A. S. B.* xiii. p. 942.—The YELLOW-BROWED TIT.**

Above light olive green, a little yellower on the rump; head not crested; crown and hind neck olive green; the forehead more greyish and less olive; supercilium yellow; sides of the head, throat and foreneck, also entire under parts dingy yellowish; the flanks and lower abdomen tinged with greenish; wing coverts, quills and tail dusky brown, edged with the colour of the back. Bill and legs plumbeous; iris light brown.

*Length.*—3·5 inches; wing 2·15 to 2·3; tail 1·3; tarsus 0·6; culmen 0·35.

*Hab.*—Himalayas, throughout which Jerdon says it is found. He adds that he procured one specimen near Ajuntah, at the edge of the northern ghauts, and again at Darjeeling. It hunts about in small flocks among the foliage and flowers of high trees, feeding chiefly on minute insects.

**678. *Parus nuchalis*, *Jerd., J. A. S. B.* xiii. p. 131 (1844); id., *Illustr. Ind. Orn.* pl. 46; id., *Birds of India*, vol. ii. p. 279; Adams, *Str. F.* 1873, p. 385; Butler, *Str. F.* 1875, p. 292; id., 1877, p. 221; Gadow, *Cat. B. Br. Mus.* viii. p. 38.—The WHITE-NECKED BLACK-TIT.**

Head above, hind neck, mantle and back glossy black; a white spot on the nape, sides of the breast and neck; cheeks, ear coverts, flanks, thighs, sides of the abdomen, under tail-coverts, also most of under wing coverts white; chin, throat and a broad line extending down the middle of the breast and abdomen black; wing coverts dark brown, nearly black; quills the same, the primaries with a basal white patch on the outer webs forming a band

across the wing; inner secondaries, broadly margined and tipped with white; tail black, the outermost feathers almost entirely white, the next pair white on the outer web only and the third with the outer web white at the base and tip only. Bill black; legs and feet plumbeous; iris red brown.

*Length*.—4·5 to 5 inches; wing 2·3 to 2·5; tail 2; tarsus 0·7; culmen 0·42.

*Hab.*—Table land of the Indian peninsula. Recorded from Koochamun from the eastern ghauts west of Nellore, and from Bangalore in Mysore territory.

**679. *Parus æmodius*.** *Hodgs.*, *J. A. S. B.* xiii. p. 943 (1844); *Jerd.*, *B. Ind.* ii. p. 276, No. 642; *Swinh.*, *Ibis*, 1870, p. 155; *Blanf.*, *J. A. S. B.* 1872, ii. p. 57; *Brooks*, *Str. F.* 1879, p. 487; *Gadow*, *Cat. B. Br. Mus.* viii. p. 41.—THE HIMALAYAN COLE-TIT.

Crown of head and hind neck glossy black; a large patch of white on the occiput and nape; checks, ear coverts and sides of neck white; chin and throat dull black, descending on to the upper breast and laterally towards the sides; centre of breast dull white; mantle, back and rump slaty blue; wing coverts the same, but spotted with white; quills greyish black, margined with silvery grey; the secondaries narrowly tipped with white; under surface of the body pale buff or fawn colour; under tail coverts fawn-coloured; tail greyish black. Bill dark brown; feet plumbeous; iris brown.

*Length*.—4·2 inches; wing 2·2 to 2·4; tail 1·7 to 1·8; tarsus 0·65; culmen 0·4.

*Hab.*—The Himalayas (Nepaul and Sikkim). I have preferred to give this Himalayan representative of the British Cole-Tit, the name under which it was described by Hodgson, the slender bill and other characters given of it, I consider sufficient to give it specific rank; though otherwise *P. ater* and *P. britannicus* do not differ much from it.

## GROUP.—ACCENTORES.

Bill straight, somewhat conic, high at the base, entire or slightly notched at the tip; nostrils exposed; wings moderate, more or less rounded; tail moderate or short; legs and feet stout.

The Accentores are chiefly terrestrial, but their feet are also adapted for climbing on rocks. They nidificate in bushes, and on the ground. In habits they may be said to be sedentary, and are seldom met with, except either in pairs, solitary, or in small parties of 4—5, and may be said to have their life-habits between those of a Tit and a Finch, less however like the latter. The group has been a puzzle to the systematist for ever so long. Its place in the Order *Passeriformes* has not been so easy to define, and even at the present

day, the differences of opinion leave the matter unsettled. Though excluded from his Catalogue of the *Turdidæ*, Mr. Seebohm has placed the group with *Paridæ* in his "History of British Birds," and it appears to me the only natural position for it.

### Gen. *Accentor*.—Hodgs.

Bill straight, conic, sharp, of moderate length, high, rather wide at the base, slightly notched at the tip, which is also very slightly bent down; wings moderate, the 3rd quill longest; tail moderate, even; legs and feet stout.

**680. *Accentor immaculatus*, Hodgs., *Icon. ined in Br. Mus. Passeres*, pl. 101; *Gould, B. Asia*, pl. 7 (1855); *Ferd., B. Ind.* ii. p. 286, No. 651; *Sharpe, Cat. B. Br. Mus.* vii. p. 656. *Accentor mollis*, *Blyth, J. A. S. B.* xiv. p. 581; *id., Cat. Mus. As. Soc.* p. 131; *Bp. Consp. Av.* i. p. 306.—THE MAROON-BACKED ACCENTOR.**

Head and neck dark ashy; lores and feathers round the eye dusky blackish; ear coverts dusky grey, shaded with olive brown; cheeks dull ashy grey; upper back and scapulars maroon, passing into reddish brown on the lower back and upper tail coverts, the latter washed with olive brown; wing coverts slaty grey with dusky bases; primary coverts black; primaries blackish, their outer margin edged with pale grey forming a wing patch; secondaries chestnut brown externally; tail dusky brown, the feathers edged paler externally; throat and breast dull ashy grey; abdomen and flanks chestnut brown; the middle of the abdomen creamy or ashy white; under wing coverts and axillaries ashy grey; under tail coverts chestnut brown. Bill blackish; feet pale.

*Length*.—5·2 to 5·6 inches; wing 2·95; tail 2·1; tarsus 0·8; culmen 0·55.

*Hab.*—Eastern Himalayas (Nepaul and Darjeeling).

**681. *Accentor atrigularis*, Brandt, *Bull. Acad. St. Petersb.* ii. p. 40; *Hutton, J. A. S. B.* xviii. p. 811; *Blyth, Cat. B. Br. Mus. As. Soc.* p. 131; *Gould, B. Asia*, p. 10 (1858); *Hume, Str. F.* 1879, p. 105; *Biddulph, Ibis*, 1881, p. 75; *Scully, t. c.* p. 569; *Seebohm, Ibis*, 1882, p. 423; *Sharpe, Cat. B. Br. Mus.* vii. p. 656. *Accentor Huttoni*, *Moore, P. Z. S.* 1854, p. 119; *Ferd., B. Ind.* ii. p. 288, No. 655; *Severtz., Str. F.* 1875, p. 428; *Scully, Str. F.* 1876, p. 155.—THE BLACK-THROATED ACCENTOR.**

Above brown, the feathers dusky and rufescent on the back, showing a striped appearance; rump and upper tail coverts dull ashy, the bases of the feathers dusky; crown of head and nape ashy brown; of lores, sides of face, ear coverts, forecheeks and throat black; a narrow frontal line of black, extending above the eye along the sides of the crown; a white streak from behind the eye to the nape; hindcheek and lower throat pale ochraceous buff; wing coverts dusky, edged externally with reddish brown and tipped with buffish white; primary coverts dusky brown, narrowly margined with

paler brown; quills dusky, margined with pale reddish brown, ashy on the primaries, and much broader on the secondaries, which are tipped with buffish white; tail dusky brown, margined on the outer web with ashy; foreneck and breast pale ochraceous buff; rest of the under surface of the body white; the flanks streaked with dusky; under tail coverts white, streaked with dusky; under wing coverts and axillaries ashy with longitudinal dusky centres. Bill black; nape yellow; legs and feet fleshy; iris brown.

*Length*.—5·4 to 6 inches; wing 2·8 to 2·9; tail 2·45 to 2·5; tarsus 0·7; culmen 0·4.

Mr. Sharpe observes that in the winter dress the black throat is much obscured by whitish margins to the feathers, and that the crown is altogether browner and not so grey as in summer; the ochraceous colour of the foreneck, too, seems to vary considerably.

*Hab.*—The Altai mountains, Samarkand and Turkestan, ranging into Afghanistan and the North-Western Himalayas in winter. According to Jerdon it has been found near Simla, and also in the Punjab salt range.

**682. *Accentor rubeculoides*, Moore, P. Z. S. 1854, p. 118; Gould, B. Asia, pt. 7 (1855); Jerd., B. Ind. ii. p. 288, No. 656; Hume and Henderson, Lahore to Yarkand, p. 234; Hume, Str. F. 1879, p. 105.**—The ROBIN ACCENTOR.

Crown of the head, nape, ear coverts, entire sides of the face and foreneck uniform ashy brown, the infra-orbital feathers tipped with whitish; lores, cheeks and throat paler ashy brown than the crown; mantle, back, scapulars and rump ferruginous, all the feathers with mesial dusky centres; lesser and median wing coverts ashy grey, the latter tipped with hoary white; greater coverts blackish brown, edged externally with ferruginous; primary coverts dusky, edged externally with greyish; primaries dusky brown, edged with greyish, the secondaries edged with pale ferruginous and tipped with white; tail dusky, margined externally with pale ferruginous, the outermost feathers very narrowly edged and tipped with fulvous white; foreneck and breast bright chestnut, forming a broad band; rest of under surface creamy white, the flanks broadly streaked with dusky; under wing coverts white; under tail coverts creamy buff. Bill blackish; feet pale reddish.

*Length*.—4·9 to 5·5 inches; wing 2·45; tail 1·85; tarsus 0·8; culmen 0·5.

*Hab.*—Throughout the Himalayas, extending to Ladakh, Cashmere and Native Sikkim. Kumaon is recorded as a locality.

**683. *Accentor strophiat*, Hodg., Icon ined. in Br. Mus. Passeres, pl. 101; id., J. A. S. B. xii. p. 959; Blyth, Cat. B. Br. Mus. As. Soc. p. 131; Bp. Consp. i. p. 305; Gould, B. Asia, pt. 7 (1855); Jerd., B. Ind. ii. p. 287, No. 654; Hume, Nest and Eggs, Ind. B. p. 408; Brooks, Str. F. 1876, p. 278; Hume, Str. F. 1879, p. 105; Sharpe, Cat. B. Br. Mus. vii. p. 658.**—The RUFOUS-BREADED ACCENTOR.



Above, including the crown of the head, reddish brown, streaked with dark brown; a broad creamy buff eye streak surmounting a ferruginous one, which is continued backward to the occiput; above these a black streak on the sides of the crown; lores dull white brown; ear coverts black; sides of neck ashy grey, streaked with black; cheeks and throat white, mottled with triangular black spots; foreneck and breast deep ferruginous, forming a broad pectoral band; centre of breast creamy white, the sides pale ferruginous streaked with dusky; under wing coverts creamy buff, washed with pale ferruginous; axillaries ashy; wings dusky, margined with dark ferruginous, the coverts tipped with albescent; quills blackish, edged with rufescent externally; tail brown, margined with rufous. Bill black; legs reddish brown; irides dark brown.

*Length*.—4·9 to 5 inches; wing 2·45; tail 1·85; tarsus 0·8; culmen 0·5.

*Hab.*—The Himalayas, extending, to Nepaul and Sikkim, also into the hills of Western Schuzen, Moupin and Kokonoor, and occurring more rarely on the mountains of Tsenling. Jerdon says he obtained a specimen at Darjeeling. It is recorded also from Kumaon and Nepaul. Breeds from May to August in Sikkim and the naked ranges of the Himalayas. Nest placed on the ground. Eggs, 3—4, spotless, sky blue.

**684, *Accentor Jerdoni*, Brooks, J. A. S. B. 1872, part 2, p. 327; Hume, Str. F. 1876, p. 491; id., *ibid.*, 1879, p. 105; Biddulph, Ibis, 1881, p. 75; Sharpe, Cat. B. Br. Mus., vii. p. 660. *Accentor strophiatius*, Hume and Henderson, Lahore to Yarkand, p. 234 (1878, nec Hodgk.).—JERDON'S ACCENTOR.**

*Adult male*.—General aspect of upper surface streaked, the back ashy brown with slight reddish edgings to some of the dorsal feathers, all of which are broadly centred with black; rump and upper tail coverts more uniform ashy brown; wing coverts like the back, the median and greater series dark brown, externally edged with paler brown and tipped with fulvous; bastard wing, primary coverts and quills blackish brown, externally margined with paler brown, broader on the secondaries; tail feathers brown, edged with ashy; crown of head dingy brown, darker than the back and washed with ashy; sides of the crown black, forming a distinct lateral streak; lores black, surmounted by a broad white streak which passes into pale cinnamon above the ear coverts, which are uniform black; sides of neck ashy grey; cheeks and throat white with a few black spots chiefly on the malar line; foreneck and breast pale cinnamon, forming a broad pectoral band; abdomen white; sides of the body washed with pale cinnamon, browner on the lower flanks; the sides of the body streaked with blackish brown; thighs ashy; under tail coverts white, mottled with dusky bases; under wing coverts and axillaries ashy, those near the edge of the wing mottled with dusky bases.

*Length*.—5·3 inches; wing 2·6; tail 2·15; tarsus 0·7; culmen 0·45. (*Sharpe, Cat. B. Br. Mus.* vii. p. 660.)

*Hab.*—N.-W. Himalayas and Cashmere. Recorded from Desoai plain, and also from near Simla.

**685. *Accentor altaicus*, Brandt., Bull. Acad. St. Petersb. i. p. 365; Bp. Consp. i. p. 305; Gould, B. Asia. pt. x. (1858); Ferd., B. Ind. ii. p. 287, No. 653 (1863); Servetiz, Turkestan, pp. 66, 133; id., Str. F. 1875, p. 428; Dresser, Ibis, 1876, p. 91; Hume, Str. F. 1879, p. 105; Biddulph, Ibis, 1881, p. 74; Scully, l. c. p. 569; Sharpe, Cat. B. Br. Mus. vii. p. 660. *Accentor Himalayensis*, Blyth, J. A. S. B. xii. p. 187. *Accentor variegatus*, Blyth, J. A. S. B. xii. p. 960.—THE HIMALAYAN ACCENTOR.**

Forehead, crown, occiput, neck, shoulders and rump uniform dusky ashy brown; in winter streaked with a faint eyebrow of greyish white; lores, feathers below the eye and ear coverts dusky, tipped very narrowly with fulvous; *cheeks and throat white, spotted with black*; sides of the neck dull ashy grey; foreneck and breast ashy white, the feathers with light rufous centres; mantle and back rufous brown, with fulvescent margins and broad centres to the feathers; scapulars and tertiaries rufous brown, mottled with large black spots; upper tail coverts ashy with dark centres to the feathers; under tail coverts the same; lesser wing coverts ashy brown; median series black, tipped with white, forming a bar across the wing; greater coverts blackish brown, edged with fulvous externally and tipped with white; bastard wing, primary coverts and quills blackish brown, edged with ashy fulvous, the secondaries margined and tipped with pale buff, the innermost edged with rufous on both webs; *tail dark brown edged with ashy and tipped on the inner web with white*; *breast and sides of the body white*, broadly streaked with rufous; lower abdomen unstreaked white; breast, axillaries and under wing coverts very pale rufescent, edged with ashy whitish. Bill black; legs reddish brown.

*Length*.—5·7 to 6 inches; wing 3·25 to 3·55; tail 2·3; tarsus 0·9; culmen 0·55.

*Hab.*—Altai mountains, and throughout the Himalayas. Has been found in the middle range of hills north of Mussoorie, also near Chumba, and at Simla and Nepal. It has also been found in Sikkim and at Kussowlie. *Accentor rufilatus* occurs from Turkestan to the neighbourhood of Gilgit and Northern Cashmere, and not unlikely will be found in the Himalayas.

**686. *Accentor nipalensis*, Hodgs., J. A. S. B. xii. p. 958; op. cit. xv. p. 42; Gould, B. Asia, pt. 7; Ferd., B. Ind. ii. p. 286, No. 652; Hume and Henderson, Lahore to Yarkand, p. 234; Hume, Str. F. 1879, p. 105; Sharpe, Cat. B. Br. Mus. vii. p. 664. *Accentor cacharensis*, Hodgs., P. Z. S. 1845, p. 34; id., Icon. ined. in Br. Mus. Passeres, pl. 101A, fig. 1.—THE LARGE HIMALAYAN ACCENTOR.**

Head, neck, and ear coverts uniform dark grey, with faint indications of dusky centres to the feathers; back, rump and upper tail coverts greyish brown, the feathers centred with dusky; lores blackish, mottled with pale fulvous tips; a faint fulvous eyebrow, not always present; feathers round the eye mottled with pale fulvous tips; cheeks dark grey; sides of the neck sooty brown; throat white, mottled with dark spots, forming transverse streaks; scapulars externally chestnut brown; lesser wing coverts dusky brown; median and greater coverts darker brown nearly black, tipped with white on the outer web; quills blackish brown, their outer webs chestnut, secondaries the same, the innermost with white tips; foreneck and upper breast ashy, washed with chestnut on the sides; the lower breast and abdomen paler ashy, with whitish transverse bars, and a subterminal dusky one before each feather; sides of the body chestnut, the flanks edged with white and with broad mesial dusky streaks; under tail coverts rufescent broadly tipped with white; tail brownish black, edged with pale rufous and tipped with the same colour on the inner web, the outermost feathers with a large white spot. Bill dusky; yellow on the lower mandible; legs reddish brown.

*Length*.—6 to 7 inches; wing 3·65; tail 2·6; tarsus 1; culmen 0·6.

*Hab*.—The Himalaya mountains. No specified locality is given of this representative of the European *A. alpinus*. There is only a single adult ♀ skin in the British Museum presented to it by Captain Pinwill, and the locality against it is "N.-W. Himalayas."

### Gen *Acredula*.—*Koch*.

Bill extremely short and stout; culmen strongly curved; nostrils completely hidden by short recumbent feathers; first primary well developed, but shorter than half the length of the next; tip of wing formed by the 4th, 5th and 6th primaries; tail generally much longer than the wing and much graduated; the scales covering the tarsus inclined to fuse into one long scutum. No crest. Plumage very soft and of light colours. (*Gadow*.)

**687. *Acredula erythrocephala*** (*Vigors*), *Gadow, Cat. B. Br. Mus.* viii. p. 56. *Parus erythrocephalus*, *Vigors, P. Z. S.* 1831, p. 23; *Gould, Cent. B. Him. Mts.*, pl. xxx. fig. 1; *id.*, *B. Asia*, pt. 7, p. 11; *Brooks, Str. F.* 1879, p. 487. *Orites erythrocephalus*, *Blyth, Cat. B. Mus. As. Soc.* p. 104. *Ægithaliscus erythrocephalus*, *Cab. Mus. Hein.* i. p. 90 (1850); *ferd.*, *B. Ind.* ii. p. 270, No. 634; *Blyth and Walden, B. Burm.* p. 112; *Brooks, Str. F.* 1875, p. 252; *Oates, B. Br. Burm.* i. p. 127.—The RED-HEADED TIT-MOUSE.

Forehead, crown and nape chestnut, a short but broad supercilium white; lores, ear coverts, feathers round the eye and throat black; chin and a line separating the black of the throat from that of the sides of the head white; upper surface of the body, including the wing coverts, ashy blue, tinged with russet

on the rump; quills and tail ashy brown, edged on the outer web very slightly with ashy; outer tail feathers brown, the terminal two-thirds of the outer web and the tip of the inner white; the next two pairs brown with large triangular white tips, and the three central pairs ashy brown, lighter on the outer webs; sides of the throat and neck pure white; under surface of the body ochraceous, deepest on the abdomen and flanks. Bill black; legs fleshy yellow; iris brown (*Jerd.*); iris pale yellow or yellowish creamy; feet buffy yellow; claws livid. (*Scully.*)

*Length.*—4 to 4.2 inches; wing 2.05; tail 2; tarsus 0.6; culmen 0.3.

*Hab.*—Throughout the Himalayas from the far north-west to Bhootan. It is recorded from Murree, Simla, Mussoorie, Nynee Tal, Nepaul, Bhootan and Assam; also from Darjeeling, where Jerdon says it is very common at 7,000 feet of elevation, and is found up to 10,000 feet. It associates in small flocks, frequenting shrubs, hedges and high trees, and lives chiefly on insects. In Burmah Captain Wardlaw-Ramsay obtained it in Karennee at 3,000 feet elevation, and Colonel Godwin-Austen got it in the Naga hills. It breeds from March to May. The nest is usually placed between several twigs, in low bushes, tufts of grass, banks, or other convenient situation. The nest is in shape a round ball with a small lateral entrance, and is composed of green mosses, lichen and moss roots, lined with feathers. The eggs are five in number, and, according to Hume, tiny, about 0.53 × 0.45 inch, broad ovals, sometimes almost globular, but generally somewhat compressed towards one end, so as to assume something of a pyriform shape. They are almost entirely glossless, have a pinkish or at times a creamy white ground, and exhibit a conspicuous reddish or purple zone towards the large end, composed of multitudes of minute spots almost confluent and interspaced with a purplish cloud.

**688. *Acredula jouschistos* (*Hodgs.*), *Gadow, Cat. B. Br. Mus.* viii. p. 58. *Parus jouschistos*, *Hodgs in Gray's Zool. Misc.* p. 83 (1844); *id.*, *J. A. S. B.* xiii. p. 943; *Blyth, Cat. B. Br. Mus. As. Soc.* p. 104. *Ægithaliscus jouschistos*, *Cab. Mus. Hein.* i. p. 90; *Jerd. B. Ind.* ii. p. 271. No. 635.—The RUFOUS-FRONTED TIT-MOUSE.**

Forehead and crown black, except a broad band of fawn colour which extends from the base of the bill to the nape in the centre of the crown; sides of the head and neck, ear coverts and the under wing coverts slightly paler fawn colour. The upper surface of the body ashy, slightly tinged with olive; the rump a little fulvous; wing coverts ashy, with a slight tinge of olive; quills and tail dark brown edged with greyish, the feathers of the latter more or less tipped with whitish; under surface of the body deep reddish fawn or rufescent. Bill black; legs yellow brown; iris brown.

*Length.*—4 to 4.25 inches; wing 2.2; tail 2; tarsus 0.65; culmen 0.34.

*Hab.*—The Himalayas. Has been found in Nepaul, Darjeeling and Bhootan.

**689. *Acredula niveogularis* (Moore), Gadow, Cat. B. Br. Mus. viii. p. 58. Orites (?) *niveogularis*, Moore, P. Z. S 1854, p. 140. *Acanthiparus niveogularis*, Gould, B. Asia, pt. 7, 1855. *Ægithaliscus niveogularis* (Moore), Ferd., B. Ind. ii. p. 272, No. 636.—The WHITE-THROATED TIT-MOUSE.**

Forehead white, passing to buff brown on the occiput and nape; lores, over the eyes and ear coverts black, passing as a band to the sides of the nape; upper surface of the body ashy grey, a little fulvous on the rump; tail, quills and wing coverts brownish grey, narrowly edged with grey; most of the tail feathers broadly tipped with white; cheeks, chin, throat, foreneck and sides of the neck white; a broad band of a brownish tinge across the breast, the lower part of which with the abdomen is pale pinky-isabelline or reddish fawn, passing to white on the middle of the abdomen. Bill black; feet yellowish; iris brown.

*Length*.—4·5 inches; wing 2·4 to 2·5; tail 2·3 to 2·5; tarsus 0·65; culmen 0·37 to 0·4.

*Hab.*—Northern and North-Western India. *Acredula leucogenys* occurs in Afghanistan and Cashmere.

#### Gen. *Ægithalus*.—Boie.

Bill short and straight, much pointed, slightly longer than that of *Acredula*; nostrils apart; wing longer in length than the tail; third, fourth and fifth primaries longest and forming the tip; tarsus short and stout, covered in front with transverse scutes; feet small; lateral toes unequal.

**690. *Ægithalus flammiceps*, Burton, P. Z. S. 1835, p. 153; Blyth, Cat. B. Mus. As. Soc. p. 104; Bp. Consp. i. p. 231. *Cephalopyrus flammiceps*, Ferd., B. Ind. ii. p. 267, No. 633.—The FLAME-FRONTED TIT.**

Forehead, crown and chin rich orange red; sides of neck, throat, breast and under surface of the body bright golden yellow, paler on the lower abdomen and under tail coverts; upper surface of the body yellowish green, brighter on the rump and upper tail coverts; wing coverts, quills and tail brown, the feathers edged with yellowish green; under wing coverts white; axillaries yellow. Bill plumbeous; legs leaden brown.

*Length*.—4 inches; wing 2·3 to 2·4; tail 1·4; tarsus 0·47; culmen 0·35—0·38.

The female differs from the male in the colour of the crown and throat being yellowish green, and duller everywhere.

*Hab.*—N.-W. Himalayas, extending from Cashmere into Afghanistan.

Gen. **Regulus.**—*Koch.*

Bill short, straight, somewhat conic and keeled; nostrils basal, with an opening in front of a coriaceous groove, protected by one or two rigid plumes; first primary equal to half the second in length; 4th, 5th, and 6th primaries the longest; tail square, the feathers with pointed tips; tarsus covered with one long scute; plumage soft and lax.

**691. *Regulus cristatus*, Koch, Syst. d. baier. Zool. p. 199** (The European race). *Regulus himalayensis*, *Ferd.*, *B. Ind.* ii. p. 206, No. 580; *Gould, B. Asia*, pt. 7; *Stol., Str. F.* 1875, p. 246.—THE HIMALAYAN FIRE-CRESTED WREN.

Head with a central patch of bright orange yellow or flame colour, edged with pale yellow and bordered with a dark streak from the base of the upper mandible; lores, supercilium and ear coverts ashy grey, tinged in some with greenish; upper surface of the body olive green, passing into yellowish on the rump, and upper tail coverts; wing coverts dingy, edged and tipped with spots of paler dingy greenish; primaries brown, yellowish externally; the secondaries white at the base, blackish in the middle; the inner ones margined externally with yellowish and tipped with white; tail brown, externally margined with yellowish green; under wing coverts and axillaries white; under surface of the body dingy greenish yellow. Bill blackish brown; legs and claws pale horny brown.

*Length.*—3·75 to 4 inches; wing 2·1 to 2·5; tail 1·5; tarsus 0·7; culmen 0·4.

*Hab.*—Throughout the Palearctic region. The N.-W. Himalayan race is a slightly larger bird than the European one. It is recorded from Nepaul, Cashmere and Native Sikkim, but everywhere rather scarce.

**Family.**—LANIIDÆ.

Bill strong, short, or of moderate length, notched or toothed at the tip; gape wide, with rather rigid rictal bristles; tarsus short and strong, and covered with large scutes on both sides; nostrils basal and of various forms; wing with ten primaries, the first small; tail of twelve feathers; toes four; midtoe largest.

This large family, including the genera found outside of India Proper, has been divided by Dr. Gadow into 5 sub-families, viz., *Gymnorhinæ*, comprising genera in the Australian region and Borneo; *Malaconotina*, comprising genera found in Africa, Madras and India, one genera only (*Ptererythrius*) being found in the hilly and mountainous districts of the Indian region. The next is *Laniina*, in which are comprised four genera, the genus *Lanius* only being Indian, but the species, however, extend their range

into the Palearctic and African regions in the old world; and following this are *Pachycephalina* and *Vireonina*, both unrepresented in India. Dr. Gadow, however, places *Tephrodornis grisola* in the *Pachycephalina* sub-family, but this cannot stand there, nor can *P. cyanea*, both of which are true Niltavas without tarsal scutes.

### Sub-Family—MALACONOTINÆ.

Bill longer, wider and less compressed than in *Lanius*, the tip well hooked and strongly toothed, also slightly longer, and the tail shorter, tip bent down; nostrils uncovered by feathers; 1st primary shorter than the 2nd, the 4th, 5th, and 6th longest. Plumage lax and soft, forming a thick covering.

### Gen. *Ptererythrion*.—*Strickl.*

Bill short and straight; culmen with a prominent ridge bent down at tip, hooked and notched; base of bill broad and more flattened than in *Lanius*; other characters the same as those of the sub-family.

**692. *Ptererythrion erythropterus* (Vigors), Swains., *Classif. B. i.* p. 249; Gadow, *Cat. B. Br. Mus.* viii. p. 113. *Pteruthius erythropterus*, Blyth, *J. A. S. B.* xi. pp. 106, 183; Gould, *B. Asia*, pt. viii.; *Ferd. B. Ind.* ii. p. 245, No. 609; Hume, *Str. F.* 1873, p. 356; 1879, p. 104. *Lanius erythropterus*, Vigors, *P. Z. S.* 1831, p. 22; Gould, *Cent. Him. B.* pl. 11.—The RED-WINGED SHRIKE-TIT.**

*Adult male*.—Head black; rest of upper surface light plumbeous grey; cheeks and supercilium white; tips of the upper tail coverts and tail black; wing coverts and quills black, tipped white on their inner webs; *tertiaries edged with chestnut red* on the outer webs, and fulvous on the inner; under surface of the body white, the flanks washed with a vinous colour; under tail and under wing coverts white, with a grey patch near the edge of the wing. Bill black; feet pale fleshy; iris dark brown. The adult female is olive brown above, including the scapulars and upper tail coverts; lesser wings coverts black edged with grey, the median and greater series olive brown; primary coverts and quills black, the latter, except the first three primaries, tipped white on their inner webs, the secondaries conspicuously margined with olive green; outer webs of the outermost tail feathers olive greenish and tipped with yellowish green, the inner webs black; central feathers olive green tipped with black; head grey; supercilium darker than in the male; under surface of the body white; the thighs, under tail coverts, middle of abdomen and flanks washed with fulvous; under wing coverts and axillaries white.

*Length*.—6·3 to 7 inches; wing 3·1 to 3·25; tail 2·2 to 2·5; tarsus 1·03 to 1·1; culmen 0·6 to 0·7.

*Hab.*—Throughout the Himalayas from the N.-W. to Bhootan, extending also into the hill ranges of Assam. Common about Kumaon, Mussoorie, Simla, Cashmere, Murree, and Darjeeling, from 2,500 to nearly 6,000 feet. Jerdon says it lives in small flocks flying from tree to tree with a lively mellow call, feeding at times on fruit and insects.

**693. *Ptererythrus aeralatus*, Tickell, *J. A. S. Beng.* 1855, xxiv. p. 267; *Blyth, Ibis*, 1861, p. 32; *Blyth and Wald., B. Burm.* p. 109; *Gould, B. Asia*, pt. xxviii.; *Anderson, Zool. Exp. Yunnan, Aves*, p. 628, pl. 47; *Hume, Str. F.* ii. p. 479; v. p. 114; vi. p. 368; 1879, p. 104; *Oates, B. Br. Burm.* i. p. 137.—TICKELL'S SHRIKE-TIT.**

*Male.*—The whole summit of head from the forehead to the nape, the lores, ear coverts and feathers round the eye deep black; a broad stripe from above the eye to the nape white; back, rump, scapulars and upper tail coverts grey, the latter margined with black; chin, throat, cheeks, sides of neck, breast and flanks pale grey; abdomen white, tinged with virous, as are also the feathers of the flanks covering the thighs; vent and under tail coverts white; tail glossy black; primaries black, all but the first three tipped with white; secondaries all black; tertiaries chestnut on the inner webs, also the tips of the outer; *the remainder of the outer webs golden yellow*; wing coverts black, the lesser ones marked with grey.

*Female.*—According to Mr. Hume, the stripe over and behind the eye is less marked and greyish white; the lores are very pale grey; the forehead and crown are pure clear grey, shaded on the occiput with olivaceous; the entire back, scapulars and lesser wing coverts pale greenish grey, faintly fulvous on the rump, and generally pure grey on the longest upper tail coverts (*Oates*); legs and feet fleshy white; claws pale brown to black; lower mandible and basal edges of upper mandible along commissure pale blue; rest of bill black; irides varied considerably, slaty grey, pale greenish blue and deep brown. (*Davison.*)

*Length.*—6·7 inches; tail 2·3; wing 3; tarsus 1·05; bill from gape ·9. The female is quite as large.

*Hab.*—British Burmah. According to Oates it was first described from specimens obtained on the Tenasserim mountains by Colonel Tickell at elevations from 3,500 to 4,500 feet. Captain Wardlaw-Ramsay procured it in Karennee from 4,500 to 5,000 feet elevation, and Mr. Davison rediscovered it on Mooleyit mountain. Out of Burmah it is known to occur in the Kakhyen hills, east of Bhamo, on the borders of China, where Dr. Anderson observed it. Mr. Davison says he only obtained it in the forests of Mooleyit, where he found it usually in pairs, hunting amongst the foliage for insects. He adds that it has a rather pleasant single note, which might be syllabized *toweech*, which it utters at short intervals.



**694. *Ptererythrius rufiventer*, Blyth, *J. A. S. B.* xi. p. 183; xii. p. 954; *id.*, *Cat. B. Mus. As. Soc.* p. 28; Gould, *B. Asia*, pt. ix.; *Jerd. B. Ind.* ii. p. 245, No. 610; Hume, *Str. F.* 1879, p. 104; Oates, *B. Br. Burm.* i. p. 138.—THE RUFOUS-BELLIED SHRIKE-TIT.**

Head, cheeks, and hind neck black; back, scapulars and upper tail coverts dark chestnut; wing coverts, quills and tail shining black; the primaries narrowly margined on their outer web with white, and the secondaries and tail feathers tipped with ferruginous; ear coverts, lores, and below the eyes black; chin, throat, and foreneck pale grey or pure ashy; sides of the breast light yellowish brown; centre of breast, abdomen, and under tail coverts various brown; under wing coverts and axillaries white.

The female differs in having the upper parts, wings and middle of tail feathers dark olive green, and the upper tail coverts and rump ferruginous. Bill black; feet flesh-coloured.

*Length*.—7½ to 7·7 inches; wing 3·5; tail 3·6; tarsus 1·2; culmen 0·8.

*Hab.*—Eastern Himalayas (Darjeeling, Nepaul and Sikkim).

**695. *Ptererythrius intermedius* (Hume), Gadow, *Cat. B. Br. Mus.* viii. p. 117. *Allotrius intermedius*, Hume, *Str. F.* v. pp. 112 et 115; vi. p. 370; 1879, p. 104; Oates, *B. Br. Burm.* i. p. 140.—HUME'S SHRIKE-TIT.**

Head olivaceous, the forehead with a chestnut band; throat chestnut, also the centre of the breast; superciliary stripe grey, extending as a broad band over the ear coverts; no nuchal collar as in *A. melanotis*. Lower mandible and edge of upper one pale blue; rest of upper mandible black; irides brown; feet and claws fleshy.

*Length*.—4·7 inches; wing 2·45; tail 1; tarsus 0·75.

*Hab.*—Tenasserim, on the higher slopes of Mooleyit mountain.

**696. *Ptererythrius melanotis* (Hodgs), Gadow, *Cat. B. Br. Mus.* viii. p. 117; Oates, *B. Br. Burm.* i. p. 139. *Allotrius melanotis*, Hodgs., *J. A. S. Beng.* xvi., p. 448; Gould, *B. Asia*, pt. viii.; Hume, *Str. F.* 1879, p. 104; Blyth, *B. Burm.* p. 109; *Nests and Eggs Ind. B.* p. 390; *id.*, *Str. F.* vi. p. 369. *Allotrius ænobarbus*, *Jerd.*, *B. Ind.* ii. p. 246, No. 611.—HODGSON'S SHRIKE-TIT.**

*Male*.—Whole summit of head, back, scapulars, rump and upper tail coverts greenish yellow; a ring of feathers round the eye white; a very narrow line from the nostrils over the eye and another broader one from the anterior corner of the eye, passing under the eye and over the ear coverts and terminating in a patch at the rear of the ear-coverts, black; lores and a broad band from eye to eye, round the nape, clear ashy; ear coverts yellow; chin and throat dusky chestnut; lower plumage bright yellow suffused with chestnut on the breast; central tail feathers green tipped with black; the next four pairs

black, tipped with white, the tips becoming broader from the centre to the outside of the tail; outermost tail feathers wholly white; wings black, edged exteriorly with grey, and each quill, except the first few primaries, tipped with white; lesser wing coverts black edged with grey; median and greater coverts black, broadly tipped with white. The female has the tips to the median and greater wing coverts salmon-coloured instead of white, and the chestnut on the throat is less intense, and does not extend down to the breast. The young have the upper plumage olive brown; the grey band round the head and the black lines are wanting, and the whole lower plumage is pale yellowish white. Bill plumbeous; legs fleshy white; irides light brown. (*Oates.*)

*Length.*—4·7 inches; wing 2·5; tail 1·8; tarsus 0·8; culmen 0·44.

*Hab.*—The Eastern Himalayas from Bhootan to Nepaul. Occurs also in Sikkim, Darjeeling, the Khasia hills, and in British Burmah, east of Tonghoo. Hume, quoting Hodgson's notes and figures, says that it breeds in Sikkim and Nepaul, up to an elevation of 6,000 or 7,000 feet. The nest is placed at a height of 6 to 10 feet from the ground, between some leafy, horizontal fork, between which it is suspended. It is composed of moss and moss roots and vegetable fibres, beautifully and compactly woven into a shallow cup, some 4 inches in diameter, with a cavity some 4—5 inches in depth. Interiorly the nest is lined with hair-like fibres and moss roots and exteriorly adorned with lichen. The eggs are two or three in number, very regular ovals, about 0·77 in length  $\times$  0·49 in width; ground colour a delicate pinky lilac, speckled and spotted with violet or violet purple, the markings being more numerous towards the large end, where they have a tendency to form a mottled zone.

**697. *Ptererythrius xanthochloris*, *Hodgs.*, *J. A. S. B.* xvi. p. 448 (1847); *Gould.*, *B. Asia*, pt. viii.; *Gadow*, *Cat. B. Br. Mus.* viii. p. 118. *Allotrius xanthochloris*, *Bp. C. A.* i. p. 362; *Hume*, *Str. F.* vii. p. 456; 1879, p. 104. *Allotrius ænobarbus*, *Ferd.*, *B. Ind.* ii. p. 246 (*nec Temm.*)**—The CHESTNUT-THROATED SHRIKE-TIT.

Above dusky olive green; wings with their coverts, and also the tail feathers, blackish, washed exteriorly with olive green; the tips of the secondaries and tail feathers paler; crown of the head slaty grey; ear coverts pale greyish olive; throat and upper breast dingy white, tinged with isabelline; rest of under parts dingy white, strongly washed with pale greenish yellow; inner edge of quills, edge of wing and under wing coverts whitish yellow. Bill plumbeous; legs fleshy white; iris brown. (*Gadow.*)

*Length.*—4 to 4·2 inches; wing 2·35 to 2·50; tail 1·95 to 2·05; tarsus 0·75 to 0·81; culmen 0·45.

Young birds have the upper parts uniform pale olive grey; wings and tail brown; under parts dingy yellowish white.

*Hab.*—Eastern Himalayas, from Nepaul to Bhootan. It is also recorded from Sikkim and the Khasia hills.

**Sub-Family.**—LANIINÆ. TRUE SHRIKES.

Bill stout, strong, deep, laterally slightly compressed; culmen bent, and ending in a hook with a well-developed notch; nostrils partially covered with feathers and bristles and non-operculated; tail graduated or square; wings moderate, the first primary variable in length; the third, fourth (fifth) primaries the longest; tarsus short and stout. Birds of sombre and lax plumage, which is either black, grey, rufous or white, never red, green or blue; found throughout the Palearctic, Indian and African regions. They feed on insects and small birds, pouncing on their prey from their perch, and invariably returning with their victim to the same spot to feed. The young are barred across.

**Gen. LANIUS.**—*Lin.*

General characters the same as those of the sub-family.

**698. *Lanius fallax*.** *Finsch, Trans. Z. S.* vii. 1872, p. 249, pl. xxv.; *Gadow, Cat. B. Br. Mus.* viii. p. 240. *Lanius pallidirostris*, *Cass., Pr. As. Soc. Phil.* 1851, p. 244; *Sharpe, Cat. Afr. B.* p. 51; *Heugl., Orn. N. O. Afr.* p. 482. *Lanius aucheri*, *Bp. Rev. et. Mag. Zool.*, 1853, p. 433; *Swinhoe, B. Southern Afgh., Ibis*, 1884, p. 163; *Murray, Zool. Beloochistan and S. Afgh.* p. 52.—THE PALE GREY SHRIKE.

Head and upper parts pale grey; a well-marked white superciliary stripe, extending to behind the ear coverts and joining the white of the sides of the neck; rictal bristles and a broad streak through the eye enveloping the ear coverts black; basal half of both the inner and outer webs of the primaries white, forming a broad speculum, the terminal half black; secondaries black, margined at the tips and bordered on the terminal half of the outer as well as the basal half of the inner webs with white; tail black, the two central pairs of feathers narrowly tipped with white; the outermost feathers white on their outer webs, black shafted and blackish at the base, the white decreasing in extent towards the central feathers; under wing coverts dull white, tinged with greyish; a spot of greyish on the edge of the wing; sides of the breast and abdomen also tinged with greyish. Bill and feet horny.

The young bird Dr. Gadow describes as "much paler than the adult, and tinged above with pale tawny colour; under parts dull white; loreal and frontal region dull white instead of blackish; ear coverts, quills and tail feathers brown instead of black; all the wing coverts are brown, and broadly edged with dull white; bill and feet pale horny yellow." (*Gadow*.)

*Length.*—9 to 9·4 inches; wing 4·1 to 4·25; tail 4·1 to 4·25; tarsus 1·15 to 1·2; culmen 0·75 to 0·90.

*Hab.*—From Abyssinia and Nubia to Beloochistan and Afghanistan. It is not unlikely this species will also be found to inhabit the Sind frontier. *Lanius minor* is also found in (Kandahar) S. Afghanistan.

**699. *Lanius assimilis*, Brehm., *J. F. O.* 1854, p. 146; *Bogdanow, Russian Shrikes*, p. 160; *Gadow, Cat. B. Br. Mus.* viii. p. 249.—The ALLIED SHRIKE.**

Upper parts, including the rump, pale grey; scapulars broadly edged with white or white throughout their terminal half; a broad black band extends from the nostrils through the eye, including the ear coverts, sometimes joining its fellow of the other side at the base of the culmen, producing thus a very narrow black frontal band; supercilium white; outer web of secondaries black at the base; inner web white throughout or broadly bordered with white; basal half or two-thirds of most of the primaries pure white on the outer and inner web, thus producing a large speculum; secondaries broadly edged with white round their tips; lesser wing coverts and ulnar bend grey like the back; all the other wing coverts black; central pair of tail feathers entirely black, and the next pair narrowly tipped with white, the two outer pairs entirely white, the shafts only black. All the under parts are generally pure white, frequently with a slight rosy tinge on the breast; under wing coverts near the base of the primaries not pure white but pale silky grey.

*Length.*—9·2 inches; wing 4 to 4·2; tail 3·1 to 4·1.

*Hab.*—The Punjab, Sind, Deccan, Ghiznee in S. Afghanistan and East Africa.

*Lanius grimmii* is said to occur in Beloochistan in Khelat territory. It will probably be found in Northern Sind.

**700. *Lanius lahtora* (Sykes), *Gray, Gen. B.* i. p. 290; *Blyth, J. A. S. B.* xv. p. 300, et xvi. p. 473; *Ferd., B. Ind.* i. p. 400, No. 256; *Murray, H'dbk. Zool., &c., Sind*, p. 133; *id., Vert. Zool. Sind*, p. 120; *id., Zool. Bel. and Afgh.* p. 29; *Gadow, Cat. B. Br. Mus.* viii. p. 252. *Collyrio lahtora*, *Sykes, P. Z. S.* 1832, p. 86.—The INDIAN GREY SHRIKE.**

A narrow frontal streak (not always distinct) continued through the eyes including the ear coverts to the nape, black; head, back and upper tail coverts blue grey; primaries dusky, the feathers with a broad band of white at their bases on both webs; secondaries dusky, their inner webs broadly margined, and the tips edged with white; tertiaries and wing coverts black; the tertiaries broadly tipped with white, some of the feathers also margined broadly on their inner webs with the same colour; scapulars white; entire under surface white; middle feathers of the tail black, tipped white, the external feathers wholly white, black shafted, the two next following margined on their outer web and also tipped white; under wing coverts white. Bill black; legs brown black; irides hazel brown.

*Length*.—9·5 to 10 inches; wing 4·25; tail 4·5 to 5; bill at front 0·62.

*Hab*.—India generally, Sind, Beloochistan, Southern Persia, Afghanistan, Punjab, N.-W. Provinces, Bengal, Deccan, Concan, Kutch, Kattiawar, Jodhpore (Rajputana generally), North Guzerat and Khandeish.

Breeds from February to July, but the majority lay during March and April. The nest is generally a compact structure, heavy, deep and cup-shaped, and is placed generally at a height of from 4 to 12 feet from the ground in some thorny acacia or other thorny shrub. The nest is composed of very-various materials, as grass, grass roots, sheep's wool or vegetable fibres, and lined with rags, feathers and other soft material. The number of eggs is from 3 to 6; but 4—5 is the usual number. Typically, Hume says, the eggs are of a broad oval shape, more or less pointed towards one end; the ground colour is a delicate greenish white, over which are thickly and prettily speckled blotches, spots and lines of brown and purplish markings; in some these form zones at the larger end. Size 0·9 to 1·17 inch  $\times$  0·75 to 0·83.

**701. *Lanius tephronotus* (Vigors), Gray, Gen. B. i. p. 290; Blyth, J. A. S. B. xv. p. 301; id., Cat. B. Mus. As. Soc. p. 151; Jerd. B. Ind. i. p. 403, No. 258; Godw.-Austen, J. A. S. B. p. 99; and 1875, p. 93; Hume, Str. F. 1874, p. 475; Gadov, Cat. B. Br. Mus. viii. p. 260; Oates, B. Br. Burm. i. p. 249. *Collurio tephronotus*, Vigors, P.Z.S. 1831, p. 43; Bp. Rev. et Zool. Mag. 1853, p. 435; Hume, Nests and Eggs, Ind. B. p. 171. *Lanius nipalensis*, Hodgs., Ind. Rev. i. p. 445.—The GREY-BACKED SHRIKE.**

Head, nape, upper back and scapulars ashy, the latter washed with rufous; the lower back and upper tail coverts slightly rufescent; a narrow band on the forehead (not always present), and a broad streak passing through the eye and ear coverts black; cheeks white; wing coverts black, the lesser series washed with grey, the greater series and quills narrowly margined with buffy white; primaries with a white spot at the base, but completely hidden by the wing coverts; tail dull brown, the central pair darker and obscurely tipped with fulvous, this colour increasing in extent on the outer feathers, which are also tipped and edged with fulvous; throat and centre of the body white; sides of the body and under tail coverts orange, inclining to buff; thighs ashy white; under wing coverts creamy white. Bill and feet black; iris dark brown.

Young and immature birds have the cheeks, sides of the neck, breast and flanks barred with brown.

*Length*.—9 to 9·8 inches; wing 4·05 to 4·27; tail 4·8 to 5; tarsus 1·1; culmen 0·75.

*Hab*.—Throughout Lower Bengal, thence extending to the Himalayas from Nepal to Bhootan, and eastwards to Assam and Arrakan. It is also recorded from Sikkim and Upper Burmah, and Cashmere in the valley of Astor.

It has been procured in the Tenasserim province of Burmah, at Kyouknyat, and is found over a great portion of Northern India. Hodgson says it is common in Nepaul in the open country and in groves and gardens during winter. It has a loud harsh voice, and, like all true Shrikes, is bold and daring in its manners. It breeds within our limits only in the Himalayas, and chiefly in the interior at heights of from 5,000 to 8,000 feet above the sea level. In the interior of Sikkim, in the Sutlej Valley near Chini in Lahoul, and well up the valley of the Beas, they are pretty common during the summer. They lay from May to July. Hume adds Darjeeling and Murree as localities whence eggs have been obtained. The eggs, 3—4 in number, are not unlike those of *L. lahtora*; the ground is of a pale creamy colour, thickly spotted and blotched all over with olive brown and pale purple. Size 0.97 to 1.06 inch  $\times$  0.76 to 0.81.

**702. *Lanius erythronotus* (Vigors), Gray, Gen. B. i. p. 290; Blyth, J. A. S. Beng. xv. p. 302; Ferd., B. Ind. i. p. 402, No. 257; Murray, Hdbk. Zool., &c., Sind, p. 134; id., Vert. Zool. Sind, p. 121; id., Zool. Beloochistan and Southern Afghanistan, p. 52; Swinhoe, Birds of South Afgh., Ibis, 1884, p. 104; Gadow, Cat. B. Br. Mus. viii. p. 263. *Collurio erythronotus*, Vigors, P. Z. S. 1831, p. 42; Gould., Cent. Him. B. pl. xii. fig. 2; Hume, Str. F. 1873, p. 174; id., Nests and Eggs, Ind. B. p. 167. *Lanius caniceps*, Blyth, J. A. S. Beng. xv. p. 302; Gadow, Cat. B. Br. Mus. Subsp. a. viii. p. 265.—THE RUFOUS-BACKED SHRIKE.**

A black frontal band continued through the eyes to the back of the ear-coverts; head, neck and upper back pale ashy grey; lower back, rump, upper tail coverts, lower scapulars, flanks, lower abdomen and vent rufous, a little lighter on the vent; chin, throat and upper breast white, in some a buffy tinge; primaries dusky with a small white spot at the base, and the edge of the wing white; secondaries dusky, faintly margined whitish on the external webs in some specimens, in others absent; tertiaries and wing coverts dark brown or blackish, edged and margined on the external web with whitish; tail, with the central feathers, black or dark brown, lateral feathers greyish brown, edged and tipped whitish. Bill and legs dark brown; irides dark brown.

*Length*.—9.75 to 10 inches; wing 3.5 to 3.75; tail 4.5 to 5.

The young has the head, neck and mantle ashy brown; the back, rump and upper tail coverts pale orange rufous; all the feathers of the upper surface paler at tip, and barred with dusky brown; the wing feathers edged with dull rufous; tail ashy brown, marked with indistinct wavy lines across.

*Hab.*—India generally and Ceylon, Beloochistan (Quetta), S. Afghanistan, Kutch, Kattiawar, Jodhpore, N. Guzerat.

It is found also in Afghanistan, Punjab, N.-W. Provinces, Cashmere and the N.-W. Himalayas, extending throughout India nearly to Ceylon.

Common, in Sind and the Malabar Coast, also the Neilgherries, and the better portion of the Carnatic and Central India, as well as Lower Bengal. It is recorded from all parts of Sind, from Murree, Kotegurh, Cashmere, Rajkote, Kamptee, and the Concan and Deccan. It breeds, at least the majority of the birds, in N.-W. Himalayas, the Neilgherries, Pulneys, Arrakan hills and the Rajmahal hills. March to July, and often very late in August, is the period. 4 to 6 eggs is the usual number, and the colouring is not unlike that of *Lanius tephronotus*. In length the eggs vary from 0.93 to 1.0 inch, and in breadth 0.7 to 0.72.

It will be seen that I do not admit *L. caniceps* to specific rank. It is only a paler species, and the amount of rufous varies so much in birds from the Malabar Coast, the Deccan and the Neilgherries, that placed alongside in a line of 40 or more specimens from different parts of India, no very distinct character can be obtained. *Caniceps* is only in my estimation a climatic race, and no more.

**703. *Lanius nigriceps*** (*Frankl.*), *Jerd.*, *B. Ind.* i. p. 404, No. 259; *id.*, *Ill. Ind. Orn.* pl. 17; *Blyth*, *B. Burm.* p. 121; *Dav.*, *et. Oust. Ois. Chine*, p. 95; *Anders.*, *Yunnan, Exp.*, p. 644; *Hume and Dav.*, vi. p. 202; *Cripps*, *Str. F.* vii. p. 268; *Hume*, *Str. F.* viii. p. 91; *Scully*, *Str. F.* viii. p. 264; *Oates*, *Str. F.* x. p. 199. *Collurio nigriceps*, *Frankl.*, *P. Z. S.* 1831, p. 117. *Lanius tricolor*, *Hodgs.*, *Ind. Rev.* 1837, p. 446. *Collyrio nigriceps*, *Hume*, *Nests and Eggs*, p. 172. *Lanius nasutus* (*Scop.*), *Oates*, *B. Br. Burm.* i. p. 248.—THE BLACK-HEADED SHRIKE.

The whole head from forehead to nape, also the lores and feathers behind the eye, black; feathers immediately below the nape ashy; cheeks and sides of the head black; back, scapulars, rump and upper tail coverts chestnut; central pair of tail feathers black; the rest brown, becoming successively more and more rufous towards the outside, where they are broadly edged and tipped with pale rufous; chin and throat white; breast and abdomen tinged with rufous; flanks, vent and under tail coverts bright rufous; wing coverts black; quills brown, edged with rufous, the primaries with a patch of light fulvous at the base; iris dull reddish brown; eyelids pinkish plumbeous. Bill dark horny black; legs dark brown.

*Length*.—9.5 to 9.7 inches; wing 3.8; tail 5; tarsus 1.2; culmen 0.8; from gape 1.

*Hab.*—The Himalayas, from Nepaul to Bhootan, and from the foot of the hills through Purneah and Dinajpore to Calcutta and the Sunderbuns, extending eastwards into Assam, Arrakan, and even to China and the Phillipines. Jerdon says he saw it at Goomsor and that from there it ranges into the northern part of Central India. The Rajmahal hills and Darjeeling are also recorded localities. According to Oates it is generally distributed over Pegu

and Arrakan, is abundant in the grassy plains which lie between the Pegu and Sittang rivers. He observed it at Prome, and Captain Wardlaw-Ramsay procured it at Tonghoo. Mr. Hume received it from the mouth of the Bassein river, and Mr. Davison found it in the northern portion of Tenasserim. It has the usual habits of Shrikes, perching on bare branches or high stalks of grass, and pouncing on insects on the ground. Mr. Thompson (Hume) says it breeds all along the south-western termination of the Kumaon and Garhwal forests in swampy, high grass lands, also in the high jungly tracts in Southern Mirzapore, and in the Nepaul Valley (*Hodgs.*), as well as at Darjeeling. The nest is similar in shape and structure to those of the other shrikes, and the markings on the eggs are rather sparse in the cream-coloured ground though larger and more dense at the large end, and of a dark purplish colour. Size 0.92 to 0.95  $\times$  0.7 to 0.73.

**704. *Lanius cristatus*, Linn., *Syst. Nat.* i. p. 134; *Jerd., B. Ind.* i. p. 406, No. 261; *Wald., Ibis*, 1867, p. 212; *Beavan, Ibis*, 1870, p. 312; *Holdsworth, P. Z. S.* 1872, p. 436; *Ball, Str. F.* 1873, p. 65; *Hume, t. c.* p. 65; *Hume, Nests and Eggs, Ind. B.* p. 175; *Blyth, and Wald., B. Burm.* p. 121; *Fairbank, Str. F.* 1876, p. 256; *Armstrong, t. c.* p. 316; *Hume, Str. F.* 1877, p. 29; *Butler, Str. F.* 1877, p. 228; *Legge, B. Ceylon*, p. 377; *Hume, Str. F.* viii. p. 91; *Bingham, Str. F.* ix. p. 172; *Gadow, Cat. B. Br. Mus.* viii. p. 271; *Oates, B. Br. Burm.* i. p. 252; *Murray, F'dbk. Zool., &c., Sind*, p. 134; *id., Vert. Zool., Sind*, p. 122; *Lanius phoenicurus, Pall. Zoogr. Rosso-As.* i. p. 405; *Wald., Ibis*, 1867, pl. 5, fig. 2, p. 216; 1871, p. 173.—THE BROWN SHRIKE.**

A broad band from the lores through the eyes to the ear coverts dusky brown; head, tail and upper tail coverts rufous; back rufous brown; streak over the eye white; throat white; rest of under surface fulvous; wing dusky; the tertiaries margined rufous brown; tail rufous brown. The young birds and females have the feathers of the head, wings and lower parts edged with brown and whitish. Bill horny above, below pinkish white; irides brown.

*Length.*—8.9 inches; wing 3.50; tail 3.92; bill at front 0.50.

From Lake Baikal to the Malay peninsula, and from Yarkand to the east coast of China. Occurs during the winter months only, throughout India, the Andamans and British Burmah. Found in Colombo, Kandy, Southern India generally, the Deccan, Bengal, N.-W. Provinces, Sind, Punjab, Nepaul, Mussoorie, Bhootan, Assam, Pegu and Tenasserim.

**705. *Lanius lucionensis*, Linn., *Syst. Nat.* i. p. 135; *Wald., Ibis*, 1867, p. 215; *Hume, Str. F.* ii. p. 199; *Wald., Trans. Zool. Soc.* ix. p. 171, pl. xxix., fig. 1; *David et. Oust. Ois. Chine*, p. 99; *Legge, B. Ceylon*, p. 378; *Hume, Str. F.* viii. p. 91; *Gadow, Cat. B. Br. Burm.* i. p. 251. *Lanius Schwaneri, Wald., Ibis*, 1867, p. 223.—THE PHILLIPINE SHRIKE.**



The forehead and a distinct supercilium greyish white; the feathers immediately at the base of the upper mandible, the lores, and a broad streak passing through the eye and covering the ear coverts, black; the whole upper plumage and scapulars liver brown, tinged with rufous on the rump and upper tail coverts; tail brown, tinged with rufous and tipped paler; chin, throat and sides of neck white; remainder of lower plumage pale buff; lesser coverts white, the remaining coverts and all the wing dark brown, edged with rufescent, more broadly so on the tertiaries than elsewhere. The young have the upper plumage brown, closely barred with black, and the lower plumage yellowish or buffy white; all the feathers, except those on the chin, throat, centre of breast and abdomen, barred with dark brown; legs and feet dull leaden blue; the upper mandible horny brown, edged whitish near the gape, the terminal third of the lower mandible horny brown, the basal two-third bluish or fleshy white; irides brown. (*Davison.*)

*Length*.—8 inches; tail 3·8; wing 3·5; tarsus 1; bill from gape 0·9. (*Oates.*)

*Hab.*—Tenasserim, in the extreme south, where Oates says it is only a rare straggler. In winter it is said to be found in the Malay peninsula, the Andaman Islands, and the Phillipine Islands. It passes through China on migration, and is said to have occurred in Ceylon. In the Andamans it appears to be a permanent resident.

The *adult female* differs from the male in having the ear coverts and lores more brownish, and the under parts paler. The young are brownish rufous above, brighter on the upper tail coverts; no grey on the head; loreal region and a supercilium dingy white or cream colour; head, hind neck, mantle and upper tail coverts showing faint dark vermiculations; wing coverts and secondaries brown, broadly edged with rufous, each feather with a dark brown submarginal line; ear coverts and a small spot in front of the eye dark brown; chin, throat, middle of abdomen and under wing coverts creamy white; rest of under surface strongly washed with creamy or even with rufous, and marked with numerous dark brown cross vermiculations.

**708. *Lanius isabellinus*, Ehrenb., *Symb. Phys.* i. fol. e. note; Strickl., *P. Z. S.* 1850, p. 217; *Walden, Ibis*, 1867, pl. v. f. t., p. 224; *Heugl., J. F. O.* 1861, p. 195; *Blansf., Geol. and Zool. Abyss.*, p. 339; *Dresser, B. Eur.* iii. pl. 152; *Ferd., Ibis*, 1872, p. 116; *Severtz, J. F. O.* 1875, p. 145; *Dresser, Ibis*, 1876, pl. 185; *Seebhom, Ibis*, 1877, p. 164; *Henders. and Hume, Lahore to Yark.*, p. 183, pl. iii.; *Hume, Str. F.* i. p. 174; *Scully, Str. F.* 1876, p. 137; *Murray, H'dbk. Zool., &c., Sind*, p. 135; *id., Vert. Zool. Sind*, p. 122; *Gadow, Cat. B. Br. Mus.* viii. p. 277. *Lanius arenarius*, *Blyth, J. A. S. Beng.* xv. p. 304; *Strickl. P. Z. S.* 1850, p. 217; *Ferd., B. Ind.* i. p. 407, No. 262; *Wald., Ibis*, 1867, p. 223; *Henders and Hume, Lahore to Yarkand*, p. 183, pl. iii.; *Hume, Str. F.* i. p. 174; *Scully, Str. F.* 1876, p. 137; *Murray, H'dbk. Zool., &c., Sind*, p. 136; *id., Vert. Zool. Sind*, p. 122.—The DESERT SHRIKE.**

Head and back of the neck bright rufous, seasonally duller; eye streak black or brownish; a narrow white superciliary stripe; lores whitish; wings pale brown, the primaries narrowly edged, and the coverts and secondaries broadly with rufescent; beneath white; in some specimens, the young birds especially are rufous white with crescentic marks; upper tail coverts and tail brown with a rufous tinge in some, the central tail feathers marked with irregular dusky bands; under tail coverts white. Bill dark brown; legs dusky.

*Length*.—7·75 inches; wing 3·75; tail 3·5.

*Hab.*—Sind, N.-W. Provinces, Peshawar, Kutch, Kattiawar, and Behar, also Punjab, Beloochistan, S. Persia, Arabia, Afghanistan, Khordafan, Turkestan, and Abyssinia. In Sind it is common as a winter visitant only.

**707. *Lanius phœnicuroides*, Severtz, *J. F. O.* 1873; Gadow, *Cat. B. Br. Mus.* viii. p. 278. *Lanius isabellinus* (*non. Ehrenb.*) Wald., *Ibis*, 1867, p. 224, pl. v. f. 1. (*teste Schalow*). *Otomela phœnicuroides*, *Schalow, J. F. O.* 1875, p. 148.**

The following are the distinguishing characters given of this species, which Dr. Gadow has given specific rank to:—

General colour above dingy reddish brown, always with a strong grey hue, darker than *L. isabellinus*, but not nearly so rufous as *L. cristatus*. Crown of the head contrasting with the back, being always reddish brown, "almost as rufous as the tail, which, with the rump, is dark reddish brown with a chestnut tinge, in fresh plumage." (*Severtzow*.) Primary quills much darker than in *L. isabellinus*; in old specimens in breeding plumage blackish brown; 3rd to 8th primaries with the basal parts forming a white speculum which is just hidden by the wing coverts. Old males have the under parts almost white; the flanks and sides of the breast washed with rusty colour, and the under parts never show the strong creamy tinge of *L. isabellinus*; white superciliary stripe well developed; ear coverts deep black; the whole loreal region blackish instead of the small spot seen just in front of the eye in *L. isabellinus*.

*Adult females* are paler, more isabelline grey, and have the under parts dingy; sides of neck, flanks and the whole breast tinged with isabelline; superciliary streak creamy and less distinct.

*Length*.—About 7 inches; wing 3·4 to 3·62; tail 3·3 to 3·4; tarsus 0·91 to 0·96; culmen 0·6 to 0·7.

*Hab.*—Turkestan, where it breeds, migrating to Sind, Beloochistan Kattiawar, Umballa (Punjab) and Hissar. *L. speculigerus*, Taczan, is yet only known from Turkestan and Afghanistan (Kandahar), and from Central Africa. I am, however, inclined to place it, as well as *L. phœnicuroides*, as climatic varieties of *L. isabellinus*.

**708. *Lanius vittatus*, Valenc., Dict. Sc. Nat. xl. p. 227; Wald., Ibis, 1867, p. 220; Beavan, Ibis, 1870, p. 311; Blanf., J. A. S. B. 1871, p. 272; Lloyd, Ibis, 1873, p. 408; Ball, Str. F. 1874, p. 398; Hume, Nests and Eggs, i. p. 173; Murray, Habk., Zool., &c., Sind, p. 134; id., Vert. Zool., Sind, p. 121; Gadow, Cat. B. Br. Mus. viii. p. 280. *Lanius* Hardwickii, Gray, Gen. B. i. p. 290; Blyth, J. A. S. B. xv. p. 304; id., Cat. B. Mus. As. Soc. p. 152; Jerd., B. Ind. i. p. 495, No. 260.—THE BAY-BACKED SHRIKE.**

A broad black frontal band continued through the eyes to the nape; top of head whitish; back of head, hind neck, lower back and upper tail coverts greyish white, paler on the rump and upper tail coverts; middle of back and scapulars chestnut bay; primaries, secondaries, tertiaries, wing coverts and four central tail feathers black, the primaries with a broad white patch on both webs; outermost tail feathers on each side, and the bases and tips of the three next following white; entire under surface white or buffy white, tinged with ferruginous on the flanks, breast and abdomen. Bill and legs black; irides hazel.

*Length*.—7·5 to 8 inches; wing 3·25; tail 4; bill at front nearly 0·75; tarsus 0·75.

*Female*.—Head ashy grey, shading off into dull rufous on the back and scapulars; forehead whitish; ear coverts dull brown; upper tail coverts ashy grey; tail dull brown, the feathers edged and tipped with rufous buff, the outermost pair entirely pale rufous buff; no black frontal band.

*Hab*.—India generally; not on the Malabar Coast and Bengal. (Jerd.) Occurs in Beloochistan, South Afghanistan, Mooltan, in the Punjab, throughout the Concan and Deccan, Kutch, Kattiawar, Jodhpore and North Guzerat, South India, Behar, Nepaul, Kamptee, and Rajkote. A permanent resident where found. Breeds from April to August, and like those of the preceding species of the genus, the eggs are white, speckled all over, or near the larger end with rusty.

**709. *Lanius collyrioides*, Less. in Belanger's Voy. Zool. p. 254; Walden, Ibis, 1867, p. 220; Godw.-Aust., J. A. S. B. 1874, p. 157; Anderson, B. Yunnan, p. 646; Oates, B. Br. Burm. i. p. 250; Gadow, Cat. B. Br. Mus. viii. p. 289. *Lanius hypoleucus*, Blyth, J. A. S. B. xvii. p. 249; Hume, Str. F. 1874, p. 473, 1875.—THE BURMESE SHRIKE.**

Forehead, lores, ear coverts and round the eyes blackish; crown, nape, and sides of the neck dark ashy; back, rump, scapulars and upper tail coverts chestnut; wing coverts brown, edged with ferruginous; tertiaries the same; primaries and secondaries dark brown, narrowly edged on the outer webs with whitish; inner webs of all white at the base; the fifth to tenth primaries also with a white spot on the outer web near the base; the outermost pair of tail feathers white with black shafts, the next white with a large black patch on the inner web; the others black tipped with white; under wing

coverts mixed black and white ; iris pale reddish brown ; eyelids plumbeous. Bill black ; the gape and the greater portion of the lower mandible flesh colour ; legs plumbeous ; claws dark horn colour. (*Oates.*)

*Length.*—7·5 to 8 inches ; wing 3·5 ; tail 4 ; tarsus 1 ; culmen 0·7.

*Hab.*—Burmah and Pegu. *Oates* says generally distributed over the Pegu division ; abundant in the Thayetmyo and Prome districts. Procured also at Rangoon and in Karenne. Found generally in gardens and secondary jungle, and the outskirts of cultivation. Like the rest of the species of the genus, makes the telegraph wire and posts serve as a perch from which to swoop on insects.

### Group.—CERTHIOMORPHÆ.

*Bill entire, and not notched.*

### Family.—CERTHIIDÆ.

Bill either straight and subulate, or slender, long, acute, entire and much curved ; culmen keeled ; tarsi comparatively short, covered anteriorly with transverse scutæ, except in *Tichodroma*, in which genus they are nearly fused together ; sides of the tarsus with one long scutum ; feet large ; toes more often syndactyle ; hind toe and claw large ; wing and tail variable in size and structure, the wing with ten primaries.

This family of Tenuirostral or slender-billed Passerine birds are commonly known as *Creepers*. They are for the most part adapted to live upon the trunks and branches of trees, and to feed upon insects which infest the bark. The form of the bill is either long or short, slender or stout, and capable of penetrating very hard substances. They cling with their feet to the perpendicular surface of trees, resting upon the stiff quills of their tail, and creep from the base to the summit of the stem, with short jerking movements, searching every crevice as they ascend. They are divided into *Certhiina*, or true Creepers, and *Sittina*, or Nuthatches, the latter having affinities for the Woodpeckers.

### Sub-Family.—CERTHIINÆ.

Bill slender, longer than the head, curved downwards ; wings moderate or long, ample, rounded ; primaries ten, the first always present, though generally very short ; tarsus anteriorly covered with transverse scales in *Salpornis* and *Certhia* fused together in *Tichodroma* ; tongue not cleft.

Non-migratory birds of small size.

### Gen. *Certhia*.—*Lin.*

Bill moderate, slender, slightly curved, entire ; nostrils basal, partially covered by a vaulted membrane ; wings long ; the tip formed by the 3rd to 6th primaries ; tail stiff, the feathers much pointed, generally longer than wing.

**710. *Certhia himalayana*, Vig., P. Z. S. 1831, p. 174; Gould, B. Asia ii. pl. 17; Jerd., B. Ind. i. p. 380, No. 243; Hume, Str. F. 1877, p. 78; Biddulph, Str. F. ix. p. 315; Reid, Cat. B. Prov. Mus. Luckn. p. 45; Gadow, Cat. B. Br. Mus. viii. p. 327.**—THE HIMALAYAN TREE-CREEPER.

Above dark brown, each feather centred with pale earthy olive brown; some of the feathers of the rump and upper tail coverts ferruginous at the tip; greater coverts ferruginous at the base, then dusky black with a light spot; quills brown, faintly barred on the outer web for half the length, and a broad fulvous bar on the inner web; first four primaries generally unspotted; tail brown, with numerous darker brown bars. Bill blackish; legs brown black; irides brown.

*Length*.—5·5 inches; wing 2·6 to 2·7; tail 2·3 to 2·5; bill at front 0·5; culmen 0·65.

*Hab.*—The Himalayas, from Cashmere to Assam and from Turkestan to Afghanistan. Recorded from Pushut, Cashmere, Gilgit, Jellalabad, Almorah, Kumaon, Ranibagh, Peshawar, Simla, Dehra-Doon, Nepaul and Assam.

**711. *Certhia discolor*, Blyth, J. A. S. B. 1845, p. 580; 1847, p. 864; id., Ann. and Mag. Nat. Hist. 1847, p. 317; Jerd., B. Ind. i. p. 381, No. 245; Gadow, Cat. B. Br. Mus. viii. p. 323. *Certhia nipalensis*, Hodgs. (var.?) apud, Gould, B. Asia, ii. pl. 16 (lower figure); teste Hume. *Certhia Stolickzæ*, Brooks, J. A. S. B. 1873, p. 256; Hume, Str. F. 1877, p. 78.**—THE SIKKIM TREE-CREEPER.

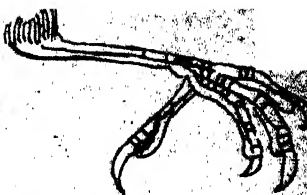
Above rufous brown, with diffused pale central spots; the rump, upper tail coverts and tail rufous or ferruginous; tail unbarred; chin, throat and breast dull buff; rest of under parts suffused with yellowish ochraceous; under tail coverts rusty ochraceous; the first four primaries unspotted.

*Length*.—5·75 to 6 inches; wing 2·5 to 2·6; tail 3.

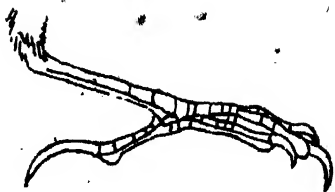
*Hab.*—The Himalayas, from Bhootan to Nepaul, extending into Cashmere and Ladakh. Occurs at Darjeeling, in Sikkim, Nepaul, Bhootan and Ladakh.

**712. *Certhia nipalensis*, Hodgs., Icon. ined. in Br. Mus. Passeres, Nos. 289 and 598; Blyth, J. A. S. B. 1845, p. 581; 1847, p. 864; id., Ann. and Mag. Nat. Hist. 1847, p. 317; Gould, B. Asia ii. pl. 16, (upper figure); Jerd., B. Ind. i. p. 381, No. 244; Hume, Str. F. 1877, pp. 74-78; Gadow, Cat. B. Br. Mus. viii. p. 329. *Certhia Mandellii*, Brooks, Str. F. 1873, p. 256.**—THE NEPAUL TREE-CREEPER.

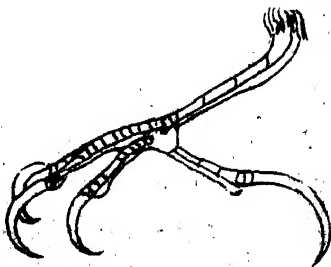
Above rufous brown, with well-defined pale central spots of pale fulvous white; rump and upper tail coverts unspotted deep ferruginous; quills brown, edged lighter; a pale fulvous bar on the outer webs of most of them, except the first four. On the inner web the bars become somewhat oblique; tail unbarred light ferruginous brown, the central pair of feathers much elongated,



*Arachnothera magna.*



*Rimator malacoptilus*



*Tichodroma muraria*



and longer than the wing; throat white; breast pale ochraceous; flanks and under tail coverts ferruginous.

*Length*.—5·5 inches; wing 2·6 to 2·85; tail 2·9 to 3·1; tarsus 0·65 to 0·85; culmen 0·53 to 0·60.

*Hab*.—Himalayas, from Nepaul to Bhootan and Assam. Recorded from Nepaul, Darjeeling, Sikkim and Bhootan.

### Gen. **Salpornis**.—Gray.

Bill long, curved, broadish at base, curved downwards, and laterally compressed beyond the nostrils; culmen pointed; tail short and soft, the wing reaching to the end of it; 1st primary very short; 2nd nearly as long as 3rd and 4th, which, with the 5th, are longest, and form the tip of the wing; tarsus covered with transverse scutes.

**713. *Salpornis spilonotus*** (*Frankl.*), *Gray, P. Z. S.* 1847, p. 7; *id.*, *Gen. B.* i. p. 144; *Ferd.*, *B. Ind.* i. p. 382, No. 246; *Ball, Str. F.* 1874, p. 397; 1876, p. 232; 1878, p. 209; *Butler, Str. F.* 1875, p. 462; 1876, p. 37; *Swinhoe, B. Cent. India, Ibis*, 1884; *Gadow, Cat. B. Br. Mus.* viii. p. 330. *Certhia spilonota*, *Franklin, P. Z. S.* 1831, p. 121.—The SPOTTED GREY CREEPER.

Upper surface of the body dark brown with numerous white spots, the crown with longitudinal white streaks; wings with transverse barrings on the inner webs of the quills; tail except the central pair with 5-6 distinct bars; throat and sides of the head pure white; all the rest of the under parts pale, buff or buffish white, with numerous dark brown bars; culmen pale brown.

*Length*.—4·8 to 5 inches; wing 3·5; tail 2; tarsus 0·6.

*Hab*.—Central India (Behar, Oude and Bundelkund).

### Gen. **Tichodroma**.—*Illiger*.

Bill long and slender, slightly curved, trigonal at base, cylindric in front, slightly depressed at the tip; nostrils basal, exposed, longitudinal, with a distinct vaulted operculum; wings long, ample, the 1st quill well-developed but short, the 4th and 5th longest; tail short, rounded, broad and soft; tarsus moderate, covered in front with one long scutæ; toes long and slender; outer toe syndactyle.

**714. *Tichodroma muraria*** (*Linn.*), *Illiger, Prod.* p. 211; *Gould, B. Eur.* iii. pl. 239; *Ferd.*, *B. Ind.* i. p. 383, No. 247; *Scully, Str. F.* 1879, p. 262; *Gadow, Cat. B. Br. Mus.* viii. p. 332; *Murray, Zool. Bel. and South Afghanistan*, p. 53. *Certhia muraria*, *Linn., Syst. Nat.* i. p. 184. *Tichodroma alpina*, *Koch., Syst. Baier. Zool.* p. 80. *Tichodroma subhimalayana*, *Hodgs. in Gray's Zool. Misc.* p. 82. *Tichodroma nipalensis*, *Hodgs. J. A. S. B.* xiv. p. 581.—The RED-WINGED WALL-CREEPER.



*Adult male* (in winter plumage). Hind neck, mantle and back . pale ashy grey ; upper tail coverts darker ; entire crown of the head grey, strongly washed with grey brown ; the whole shoulder, edge of wing and the basal half of the outer web of most of the quills carmine red ; rest of the quills dark brown with greyish white tips ; second to fifth primary with two large conspicuous white patches on the inner web ; tail brownish black, the outer pairs with large subterminal white patches ; all the feathers with greyish tips ; sides of the head and ear coverts brownish white ; chin, throat, sides of the neck and upper part of breast white ; rest of under surface dark ashy grey ; under wing coverts blackish, edged like the axillaries with carmine colour ; under tail coverts tipped with white. Bill, feet and claws black ; iris brown. (*Gadow*.) In summer plumage the throat and foreneck is black instead of white.

*Length*.—6·5 to 7 inches ; wing 4 ; tail 2·25 to 2·40 ; culmen 1·10 to 1·38.

*Hab*.—The Alpine regions of Central and South Europe, Asia and North Africa, being found in the Alps, Carpathians, in Abyssinia and in the Himalayas. In Afghanistan it has been procured at Kandahar, also at Sagee and in Beloochistan in the Zhob Valley, where Captain F. Babington Peile collected specimens. It is also recorded from Kangra, Kumaon, the banks of the Ganges and Nepaul. Jerdon says it descends in winter to the Alpine parts of the Punjab. He saw it frequently near Darjeeling in winter from a level of 2,500 to 5,000 feet. It hunts about for insects in small ravines, on rocks and on the face of perpendicular cliffs.

### Sub-Family.—SITTINÆ.

Bill slightly longer than the head, nearly straight, subulate and compressed at the tip ; nostrils in a coriaceous groove, exposed or hidden by the frontal plumes ; wings long and pointed ; first primary short ; tail short, rounded or square ; tarsi short, anteriorly covered with transverse scutæ.

Nuthatches, like woodpeckers, climb with great facility up, down and around the trunks and branches of trees, but unlike them do not use their tail to assist them ; usually they alight on trees with their head downwards, and it is said they sleep in that position. They feed on insects and nuts of kinds, some build in holes of trees, and others on the face of perpendicular cliffs. In the case of *S. syriaca*, which is common both in Afghanistan and Beloochistan in the Bolan Pass, the nests are made of mud plaster and cowdung in the form of a projecting cone with the entrance inclined downwards. All about the walls, within a radius of 2 or 3 feet, pieces of rag, feathers, &c., are placed in small chinks, or plastered on to the wall. When breeding in holes of trees, the holes are cemented till a small entrance is formed.

Gen. **Sitta**.—*Lin.*

General characters same as those of the sub-family; nostrils covered by setaceous tufts; wing with the 1st primary short, the 4th and 5th equal and longest; tail short, even, soft.

**715. *Sitta nagaensis*, Godwin-Austen, P. Z. S. 1874, p. 44; Gadow, Cat. B. Br. Mus. viii. p. 344.**—The MUNIPUR NUTHATCH.

Crown of the head, neck, mantle, back, scapulars and central tail feathers pale slaty blue; quills and wing coverts brownish, the outer webs of the secondaries and wing coverts washed with pale slaty blue, all the tail feathers except the central pair, dark brown with greyish tips, the outer pairs with a subterminal white patch; a black stripe from the nostrils through the eye; chin, cheeks, coverts and under parts whitish; the breast greyish white; entire flanks rich chestnut red; under tail coverts with a large white subterminal spot, edged and tipped with chestnut red; under wing coverts black. Bill slaty blue; iris dark brown; legs horny fleshy.

*Length*.—6 inches; wing 3; tail 1·75; culmen 0·68.

*Hab.*—Hills N.-E. of Bengal (Munipur).

**716. *Sitta magna*, Wardlaw-Ramsay, P. Z. S. 1876, p. 677, pl. lxiii.; *id.*, *Ibis*, 1877, p. 465; Hume, *Str. F.* 1877, p. 343; *id.* and Dav., *Str. F.* 1878, p. 201; Hume, *Str. F.* 1879, p. 90; Oates, *B. Br. Burm.* p. 133; Gadow, *Cat. B. Br. Mus.* viii. p. 344.**—The GIANT NUTHATCH.

Above dark bluish slate colour; a broad ( $\frac{1}{4}$  inch) black stripe from the base of the bill over the eye to the shoulder; crown of the head and neck smoky grey; wing bluish slate colour, the primaries edged on their outer webs with bluish slate, except the second, third and fourth, which are slightly margined with whitish on their outer webs, and the fifth and sixth white at the base; under wing coverts greyish brown; the edge of the wing jet black under the shoulder; tail feathers dark brown, the two central pairs bluish slate colour, the rest dark brown, the outer pair broadly tipped on the outer web with white and margined with the same on the inner; under surface of the body smoky grey; the throat and foreneck whitish; under tail coverts, vent and thighs brilliant chestnut, each feather of the former tipped with white.

*Length*.—7·3 inches; wing 4·5; tail 2·7; culmen 1·0; tarsus 0·95.

*Hab.*—British Burmah, between Tounghoo and Karennee. *Sitta syriaca*, a species without chestnut on the flanks, and with a white throat, is found in Beloochistan (Bolan Pass), Persia and South Afghanistan, also Turkestan.

**717. *Sitta himalayensis*, *Jard. et. Selby, Ill. Orn.* iii. pl. 144; Gould, *B. Asia*, pt. i., *Bp. C. A.* i. p. 227; *Ferd.*, *B. Ind.* i. p. 385, No. 248;**

*Hume, Str. F.* 1879, p. 262; *Gadow, Cat. B. Br. Mus.* viii. p. 349. *Sitta himalayana*, *Blyth, J. A. S. B.* xix. p. 579; *id.*, *Cat. B. Mus. As. Soc.* p. 190. *Sitta nipalensis*, *Hodgs., J. A. S. B.* v. p. 779.—The HIMALAYAN NUTHATCH.

Above deep slaty blue with a purplish tinge; below pale rufescent whitish, deepening and becoming rich rufous, rusty or chestnut red on the sides of the breast, flanks, abdomen and the whole of the under tail coverts; a black band from the nostrils through the eye to the shoulders; quills and lateral tail feathers blackish, the outer two pairs having a large white subterminal patch, and the basal two-thirds of the central pairs pure white.

The female has the throat, foreneck and upper part of breast, a pale cream colour. Bill dusky bluish; changing to fleshy grey towards the base; irides dark brown; legs fleshy grey.

*Length*.—4·5 to 4·75 inches; wing 2·7 to 2·9; tail 1·45 to 1·6; tarsus 0·7.

*Hab.*—Nearly throughout the Himalayas. Abundant in Sikkim, also about Darjeeling, frequenting large trees. It has been recorded from Nepaul, Kumaon, Mussoorie and Bhootan.

**718. *Sitta neglecta***, *Wald., Ann. and Mag. Nat. Hist.* v. p. 218; *Hume, Str. F.* 1874, p. 473; 1875, p. 87; *Elwes, P. Z. S.* 1875, p. 661; *Blyth, B. Burm.* p. 112; *Hume and Dav., Str. F.* 1878, p. 201; *Hume, Str. F.* 1879, p. 90; *Bingham, Str. F.* 1879, p. 90; *id.*, *Str. F.* 1880, p. 171; *Oates, B. Br. Burm.* p. 131; *Gadow, Cat. B. Br. Mus.* viii. p. 349.—The BURMESE NUTHATCH.

Whole upper plumage, wing coverts, outer webs of all the quills and the central tail feathers slate colour; inner webs of the quills dark brown, the primaries with a patch of white at their bases; lores and a streak reaching to the nape black; chin, throat, cheeks and ear coverts fulvous white; lower plumage chestnut, paler on the upper breast; three outer pairs of tail feathers black at the base, ashy towards the tip, with a subterminal spot of white on the inner web; the next two pairs slaty on the outer web and black on the inner; the tips of the latter also slaty; under tail coverts slate colour, broadly tipped with white; iris brown; upper mandible bluish black, lower plumbeous; legs and feet dark plumbeous. (*Oates*.)

*Length*.—5·5 inches; wing 3·2; tail 1·7; tarsus 0·75; culmen 0·73.

*Hab.*—Burmah, from the Karen hills to Tenasserim. According to Oates, it is common in the plains of Pegu, and in the Karen hills of the Tonghoo district. Mr. Davison found it in the northern and central portions of Tenasserim as far south as the base of Mooleyit mountain. Captain Bingham states that it is very common in the Thoungyeen Valley, and Captain Wardlaw-Ramsay procured it in Karenne. Found only in the dry forests; usually seen in pairs climbing the trunks and branches of trees, the bark of which it searches for insects.

**719. *Sitta castaneoventris*, Frankl., P. Z. S. 1831, p. 121; *Jard. and Selby, Ill. Orn.* iii. pl. 145; *Gould, B. Asia*, pl. 9; *Ferd., B. Ind.* i. p. 386, No. 250; *Beavan, Ibis*, 1869, p. 424; *Gadow, Cat. B. Br. Mus.* viii. p. 351. *Sitta castaneiventris*, *Bp. C. A.* i. p. 227; *Hume, Str. F.* 1878, p. 209.—The FERRUGINOUS-BELLIED NUTHATCH.**

Above slaty blue, lighter on the head and neck; a black stripe from the nostrils through the eye along the sides of the neck; lores, cheeks, chin and upper throat white; ear coverts and part of the sides of the neck black; quills blackish, edged exteriorly with slaty blue and margined on the inner web with white; central pair of tail feathers and outer web of the rest slaty blue, the outermost with a subterminal white patch on the inner web; under wing coverts black, a patch of white at the base of the primaries; under surface of the body (except the throat which is white) deep cinnamon chestnut; under tail coverts bluish grey. Bill horny black, paler at base; legs plumbeous; iris brown.

*Length*.—5 to 5·75 inches; wing 2·85 to 3; tail 1·5; tarsus 0·7; culmen 0·75.

*Hab.*—The N.-W. Himalayas, extending into the jungles of Central India. Jerdon gives Central and Southern India, from the extreme south, to Rajmahal and Mirzapore. Rare in the damp forests of Malabar; not so, however, in the Wynaad, and on the Neilgherry slopes and Mysore.

**720. *Sitta cinnamomeiventris*, Blyth, J. A. S. B. xi. p. 459. *Sitta castaneoventris*, *Hodgs. in Gray's Zool. Misc.* p. 82. *Sitta cinnamomeiventris*, *Cab. Mus. Hain.* i. p. 93; *Ferd., B. Ind.* i. p. 387, No. 251; *Hume Str. F.* 1879, p. 263.—The CINNAMON-BELLIED NUTHATCH.**

Above ashy plumbeous, lighter on the head and neck; chin and lores white, also the cheeks; neck, breast, abdomen, and lower tail coverts deep bright cinnamon chestnut in the male, dull rusty in the female; eye streak from the nostrils black; under tail coverts grey at base, broadly edged with cinnamon brown, each feather with a conspicuous white terminal spot; tail feathers deep black, tipped with grey, and a subterminal white patch; central feathers like the back; throat cinnamon brown.

*Length*.—5·75 inches; wing 3 to 3·1; tail 1·75; culmen 0·8 to 0·9. The female has all the under parts vinous brown, or fawn colour.

*Hab.*—Himalayas, and the Burmese countries. Recorded from Nepaul, Darjeeling, Bhootan, Tonghoo and Bhamo. Jerdon says he found it in Sikkim.

**721. *Sitta leucopsis*, Gould, P. Z. S. 1849, p. 113; *id.*, *B. Asia* i. pl. 10; *Ferd., B. Ind.* i. p. 585; *Ferd., Ibis*, 1872, p. 20; *Scully, Ibis*, 1881, p. 655.—The WHITE-FACED NUTHATCH.**

Above dark slaty blue; crown of the head and part of the sides of the neck glossy black; quills brown; central pair of tail feathers like the back, the others black with greyish tips and with white subterminal patches to the inner web; under wing coverts sooty black; flanks, abdomen and under tail coverts rich chestnut red; sides of the head, orbital region and the whole of the foreneck and breast white. Bill dark horny; lighter at base of mandible; legs dark lead colour.

*Length*.—5 inches; wing 3; tail 1·7; tarsus 0·75; culmen 0·8.

*Hab*.—N.-W. Himalayas and Cashmere (Gilgit 10,000 feet, and Astor 10,000 feet).

**722. *Sitta formosa***, *Blyth*, *J. A. S. B.* xii. p. 938; *id.*, *Cat. B. Mus. As. Soc.* p. 189; *Ferd.*, *B. Ind.* i. p. 387, No. 252; *Sclater*, *Ibis*, 1865, p. 308; *Gadow*, *Cat. B. Br. Mus.* vii. p. 357. *Callisitta formosa*, *Sundev.*, *Av. Meth. Tent.* p. 47.—The BEAUTIFUL NUTHATCH.

Above black, variegated with different shades of blue, streaked with cobalt blue on the head and with azure blue on the back, and with whitish mixed with lavender on the sides of the neck; shoulders, lesser wing coverts, scapulars, lower back, rump and upper tail coverts verdigris blue; greater wing coverts and tertiaries black; quills black, the lower and secondary quills margined and tipped with white or pale-bluish white; primaries with narrow blue edgings; tail feathers black, edged on the outer web with blue, except the central pair, which are edged with whitish; under wing coverts and edge of wing black, the edge with a white patch; under surface of the body light rusty fulvous, paler on the breast and throat. Bill dark horn; legs greenish horny; soles yellow; irides dark brown.

*Length*.—6 to 7 inches; wing 3·95; tail 2·3; tarsus 0·85; culmen 0·83.

*Hab*.—Sikkim, in the higher mountains only. Has been obtained at Darjeeling.

**723. *Sitta frontalis*** (*Swains.*), *Horsf.*, *Tr. Lin. Soc.* xii. p. 162; *Vig.*, *Mem. Raffl.*, p. 670; *Tick.* *J. A. S. Beng.* ii. p. 579; *McLell.*, *P. Z. S.* 1839, p. 165; *Oates*, *B. Br. Burm.* i. p. 134; *Gadow*, *Cat. B. Br., Mus.* viii. p. 358. *Orthorhynchus frontalis*, *Swains.*, *Zool. Ill.* 1st Ser., pl. 2. *Dendrophila frontalis*, *Swains.*, *Classif. B.* ii. p. 318; *Ferd.*, *Mad. Journ.* xi. p. 218; *Blyth*, *J. A. S. Beng.* xvi. p. 580; *Mason*, *Burmah*, p. 280; *Ferd.*, *B. Ind.* i. p. 388, No. 253; *id.*, *Ibis*, 1872, p. 24; *Holdsworth*, *P. Z. S.* 1872, p. 435; *Hume*, *Nests and Eggs*, *Ind. B.* i. p. 161; *Legge*, *Ibis*, 1874, p. 16; *Ball*, *Str. F.* 1874, p. 397; *Bourdillon*, *Str. F.* 1876, p. 393; *Fairbank*, *Str. F.* 1877, p. 399; *Hume and Dav.*, *Str. F.* 1878, p. 201; *Legge*, *B. Ceylon*, p. 560; *Hume*, *Str. F.* 1879, p. 459. *Dendrophila corallina* (*Rich.*), *Hume*, *Str. F.* 1874, p. 473; 1875, p. 89; *Sharpe*, *Str. F.* 1876, p. 436; *Anders.*, *Zool. Exped. Yunnan*, p. 633.—The VELVET-FRONTED BLUE-NUTHATCH.

A broad band on the forehead and a long supercilium black; ear coverts lilac; chin and throat whitish; rest of the upper plumage, including the wing coverts, fine cœrulean blue, with a slight purplish shade; quills and primary coverts deep black, edged with blue; central pair of tail feathers blue, the rest black, largely tipped and margined with blue; under wing coverts deep black; under surface of the body pale vinous brown. Bill bright cobalt blue; legs sienna yellow; orbital skin lemon yellow; iris light straw yellow.

*Length*.—4·5 to 5 inches; wing 2·9; tail 1·7; tarsus 0·7; culmen 0·65.

*Hab.*—From the Himalayas to Ceylon, throughout the Burmese countries, Java, Borneo and the Phillipines. According to Jerdon, it is found over the greater part of India in suitable localities. He found it on the Malabar Coast, on the summit of the Neilgherries, in Central India, in Goomsoor, and also on the Himalayas. In Ceylon as well as in Assam, Burmah and Malayana, it is not uncommon. Oates says it occurs over every portion of Pegu where there is thick forest, but is commoner on the hills than elsewhere. Davison found it throughout Tenasserim, and Captain Bingham in the Thoungyeen valley. The species is generally found in small companies of 5 or 6, affecting trees and brushwood. They nest during February and March, lay 3—4 eggs of a whitish colour, spotted with red and purple.

### **Group.—CINNYRIMORPHÆ.**

Bill long, always pointed and curved; tongue extensile. No rictal bristles. Colours metallic.

### **Family.—NECTARINIIDÆ.**

Bill of various lengths, generally long, always much pointed, and more or less curved. Nostrils basal, rounded, covered by membrane. Rictal and nasal bristles wanting; wings moderate, first primary small; third to fifth primaries form the tip of the wing; tongue long, protractile, and ending in a tube, which is divided anteriorly; tarsus anteriorly covered with transverse scales; hallux and claws stout.

The Honeysuckers, or Sunbirds as they are called, are noted for the brilliant and metallic splendour of their plumage, and may be said to take the place in India of the humming birds of America. The principal ground colours are yellow and green, with the addition of other ornamental and metallic colours, which are generally, with the pectoral tufts, characteristic of the male bird. The central tail feathers of many are elongated. The sexes differ much in colour, the females being dressed in plain yellow, greenish yellow, or pale fawn yellow. They live chiefly on minute insects, and on the nectar of flowers. Nests pensile; eggs generally two, white.

Gen. **Chalcostetha**.—*Cab.*

Bill of moderate length and curvature; tail graduated; feathers of the back and rump short and metallic coloured; females plainly coloured.

**724. Chalcostetha insignis** (*Fard.*), *Wald.*, *Ibis*, 1870, p. 44; *Hume*, *Str. F.* iii. p. 319; *Tweed*, *t. c.* p. 302; *id.*, *P. Z. S.* 1878, p. 621; *Hume and Davison*, *Str. F.* vi. p. 183; *Shelley*, *Monog. Nect.* p. 87, pl. 30; *Hume*, *Str. F.* 1879, p. 89; *Gadow*, *Cat. B. Br. Mus.* ix. p. 13. *Nectarinia insignis*, *Fard.*, *Monog. Sun-birds*, p. 274; *Gould.*, *P. Z. S.* 1865, p. 663. *Cinnyris macklotti*, *Bonap. Consp. Av.* i. p. 408. *Nectarinia pectoralis*, *Temm. Pl. Col.* 138, fig. 3. *Chalcostetha insperata*, *Hume*, *Str. F.* iii. p. 320 (*footnote*). *Chalcostetha pectoralis* (*Temm.*), *Oates*, *B. Br. Burm.* i. p. 319. —MACKLOT'S SUN-BIRD.

Forehead and crown metallic emerald green; sides of the head and neck, nape and upper back dull black; lesser and median wing coverts, scapulars, lower back, rump and upper tail coverts metallic green, purplish on the latter, according to the light; tail blue, edged with metallic green; wing coverts and quills dark brown, edged narrowly with metallic green or purple; chin, throat and upper breast brilliant metallic golden bronze, or according to light, brilliant purplish blue; a narrow band bordering this and the lower breast metallic violet purple; axillary tufts bright yellow; under wing coverts and edge of wing black.

The female has the crown and nape ashy brown; sides of the head, chin, throat and feathers round the eye grey; upper surface of the body dull olive green; tail pale black, all but the central feathers broadly tipped with white; quills brown, edged on their outer webs with dull olive green; under surface of the body from the breast yellow, paler on the vent and under tail coverts; legs and feet black. Bill black; irides dark brown.

*Length.*—5·5 inches; wing 2·1 ♀, 2·3 ♂; tail 2·1; tarsus 0·60; culmen 0·8.

*Hab.*—Cochin-China and Siam to Southern Tenasserim; Malay Peninsula, Sumatra, Java, Borneo, Phillipine Islands. A rare straggler at Malewoon and Patoe Islands in Tenasserim.

Gen. **Æthopyga**.—*Cab.*

Bill longer than the head and curved; the culmen ridged; nostrils bare, longitudinal and operculated; the first primary short, tip of wing formed by the 3rd, 4th, and 5th primaries; tail graduated, the centre feathers in the males projecting far beyond the lateral ones; in the male, the crown and tail have metallic colours, and the sides of the head and neck plain.

**725. *Æthopyga saturata* (Hodgs.),** *Cab. Mus. Hein.* i. p. 103; *Ferd., B. Ind.* i. p. 367, No. 231; *Walden, Ibis*, 1870, p. 36; *Ferd., Ibis*, 1872, p. 17; *Hume, Nests and Eggs, Ind. B.* p. 147; *Shelley, Monog. Nect.* p. 33, pl. 11; *Gadow, Cat. B. Br. Mus.* ix. p. 15. *Cinnyris saturata*, *Hodgs., Ind. Rev.* ii. p. 273; *Blyth, J. A. S. B.* xi. p. 192. *Cinnyris assamensis*, *McClelland, P. Z. S.* 1839, p. 157. *Nectarinia saturata*, *Hodgs., J. A. S. B.* xii. p. 976; *Blyth, Ann. and Mag. Nat. Hist.* xx. p. 316; *Gould, B. Asia*, p. 19.—THE BLACK-BREADED HONEYSUCKER.

Crown, occiput, nape, moustache, neck streak, sides of the throat, upper tail coverts and the central feathers of the tail brilliant metallic violet or steel blue; throat, breast, belly in front, lores, ear coverts, sides of the neck, wing coverts, rump and tail feathers, except the central ones, deep sooty black; scapulars and inter-scapulars dark maroon; rump and lower back with a faint trace of yellow on the feathers, forming as it were a narrow band across the rump; flanks, lower abdomen and under tail coverts dull olive yellow; axillaries yellowish; edge of wing black; under wing coverts white; the fluffy pectoral tufts very pale, almost white. Bill black; legs dark brown; irides dark brown.

*Length*.—6 inches; wing 2'10 to 3'0; tail 2'8 to 3'3; tarsus 0'6; culmen 0'85.

The female is dull green above and below, with an ashy tinge on the chin; throat and breast rather fulvescent on the vent and under tail coverts; a pale yellowish band across the rump.

*Hab.*—S.-E. Himalayas to Sikkim, Assam and Bhootan. Has been found in Nepaul, Darjeeling and Simgurh. In Sikkim it is common from 3,000 to 5,000 feet of elevation.

**726. *Æthopyga Vigorsii* (Sykes),** *Reichb. Handl. Scansoriae*, p. 303, No. 707, pl. 586, figs. 39, 79-81; *Ferd., B. Ind.* i., p. 363, No. 226; *Walden, Ibis*, 1870, p. 36; *Fairbank, Str. F.* 1876, p. 255; *Shelley, Monog. Nectarinia*, pl. 71, p. 23; *Gadow, Cat. B. Br. Mus.* ix. p. 18. *Cinnyris Vigorsii*, *Sykes, P. Z. S.* 1832, p. 98; *id., J. A. S. B.* iii. p. 542 (1834); *Ferd., Mad. Journ.* ix. p. 227; *Blyth, J. A. S. B.* iii. p. 543. *Nectarinia Vigorsii*, *Gould, B. Asia*, part 2, pl. 26 (1850).—THE VIOLET-EARED RED-HONEYSUCKER.

Anterior half of crown, upper tail coverts and outer web of inner tail feathers, also the middle tail feathers, except the outermost pair, metallic green; nape, hindneck above shoulders and scapulars a deep sanguineous; a patch on the ear coverts and moustachial streak metallic blue, under certain lights; back and rump yellow; foreneck and chest crimson red, mottled with yellow; ear coverts and wings blackish brown, also part of the nape; edge of wing and centre of breast dusky brown; under wing coverts and under edge of quills white; rest of under parts ashy grey. Bill black; irides dark brown.



The female has the under and upper parts dull olive with a strong greyish tinge; wings and tail brown, the latter with very small light tips to the under web of the outer pairs of feathers.

*Length*.—5 inches; wing 2·13 ♀, 2·5 to 2·6 ♂; tail 2·15 to 3; tarsus 0·61; culmen 0·8.

*Hab.*—The Deccan and Southern India (Madras). Colonel Sykes (according to Jerdon) found it inhabiting the lofty trees of the dense woods of the ghauts, and found the larvæ of flies, spiders and ants in its stomach. Jerdon got a specimen in the Bustar country south-east of Nagpore in thick forest at about 2,000 feet elevation.

**727. *Æthopyga seheriæ*** (Tickell), *Hume, Str. F.* 1877, p. 122; *Shelley, Monog. Nect.* pl. 22; *Hume, Str. F.* 1879, p. 89; *Jerd. B. Ind.* i. p. 364, No. 225. *Nectarinia seheriæ*, *Tick., J. A. S. B.* ii. p. 577; *Walden, Ibis*, 1876, p. 347-348. *Cinnyris* Miles, *Hodgs., Ind. Rev.* ii. p. 273; *id., J. A. S. B.* xxiv. p. 575. *Certhia goalpariensis*, *Royle, Ill. Him. Bot.* ii. p. 78, pl. 7, fig. 10. *Nectarinia goalpariensis*, *Jerd., Monog. Sun-birds*, pp. 230, 267, pl. 26. *Æthopyga Milesi*, *Cab. Mus. Hein.* i. p. 103; *Jerd. B. Ind.* i. p. 362; *Blyth and Wald., Cat. B. Burm.* p. 141; *Wald., Ibis*, 1876, p. 348; *Hume, Str. F.* 1877, p. 28; *Anderson, Zool. Yunnan Expd.* p. 661.

*The Eastern (var., Æthopyga cara.)*; *Cynniris mystacalis* (pt.), *Blyth, J. A. S. B.* xi. p. 107 (1842). *Nectarinia goalpariensis* (pt.), *Blyth, J. A. S. B.* xii. p. 969 (1843). *Æthopyga* Miles, *Walden, P. Z. S.* 1866, p. 541; *id., Ibis*, 1876, p. 348; *Beavan, Ibis*, 1869, p. 419. *Æthopyga Lathamii*, *Hume, Str. F.* 1874, p. 473. *Æthopyga cara*, *Hume id.* v. p. 71; *note vi.* p. 179; *Walden, Ibis*, 1876, p. 348; *Hume and Dav., Str. F.* vi. p. 179 (1878); *Shelley, Monog. Nectarinidæ*, p. 63, pl. 21; *Oates, B. Br. Burm.* i. p. 316.—The TENASSERIM YELLOW-BACKED HONEYSUCKER.

#### PLATE.

*Adult male*.—Anterior half of crown, upper tail coverts and central pair of tail feathers metallic violet green; the crown purplish green, the tail dark green; hinder part of crown and nape, also the tail and the long fluffy feathers of the sides of the back olive brown; quills and wing coverts brown, edged with olive; under wing coverts and axillaries and the under lining of quills white; lower breast, abdomen and flanks grey, more or less strongly washed with olive.

Dr. Gadow's observations on the species from the specimens in the British Museum collection are as follows:—

The amount of olive colour on the under parts varies from olive greenish or yellowish (*Æ. goalpariensis*, Royle, from Kumaon and N.-W. Himalayas) to a clear pale ashy grey (typical *Æ. Miles*, Hodgs., from Nepal). In

Assam we have again the olive-bellied form (*Æ. labecula*, McClelland), and in Burmah the birds have the nape and hinder part of the crown red like the mantle, instead of olive brown. (*Æ. Cara*, Hume). Every intermediate form, however, occurs in Burmah itself, as will be seen from the following table:—

Locality.	Colour of nape.	Colour of abdomen.	Culmen. Wing. Tail.		
			In.	In.	In.
♂ Burmah .....	Olive brown ...	Olive yellowish .....	0·75	2·15	2·55
♂ Burmah .....	Feathers edged with red, with a subterminal narrow olive line, rest black.	Olive yellowish .....	0·75	2·15	2·55
♂ Assam .....	Red .....	Olive grey .....	0·8	2·2	2·6
♂ Moulmein ...	Red .....	Pale yellowish grey ...	0·70	2·15	1·8
♂ S Tenasserim	Red .....	Grey and slightly olive.	0·70	2·00	1·5
♂ Bharno .....	Brown .....	Olive yellow .....	0·70	2·00	2·4
♂ Rangoon ...	Red .....	Greyish olive .....	0·70	2·30	...
♂ (3) Kumaon.	Brown .....	Pale greyish olive .....	0·85	2·35	2·2
♂ (6) Nepaul...	Brown .....	Pale ashy grey .....	0·80	2·2	2·35

The two specimens from Bharno and from Tenasserim have the central tail feathers remarkably short and of the same length as the rest, and with a deep blue gloss, the green colour being restricted to the upper tail coverts.

In the specimens from Rangoon the bases of the red feathers of the fore-neck are whitish yellow; in the other specimens blackish, or, as in some, those of the upper throat white, whilst those of the chest and lower throat are dusky. The above are observations transcribed from Dr. *Gadow's Cat. B. M.*, vol. ix., pp. 19-20, and show how the plumage varies in birds from Nepaul, Tenasserim, Assam, &c.

The female has the upper plumage olive green; centres of the feathers of the crown brown; coverts and quills brown, edged with olive yellow; tail blackish, the edges olive and the tips whitish; lower plumage and the sides of the head dull olive green.

Legs and feet dark chocolate brown; upper mandible black; lores pale reddish brown; iris dark brown; mouth pale salmon colour.

*Length*.—5 inches; wing 2·15 to 2·35; tail 1·5 to 3·2; culmen 0·7 to 0·8.

*Hab.*—From the N.-W. Himalayas, through Nepaul and Assam to Burmah and Tenasserim. Occurs, according to Oates, commonly throughout Southern Pegu (from Rangoon up to Pegu), and further North in the hills. In Tenasserim Davison found it generally distributed, and Captain Bingham met with it in the Thoungyeen Valley. Its occurrence is recorded from Nepaul, Dehra Doon, Kumaon, Upper Assam, Bharno, the Bhootan Dooars, Darjeeling Moulmein and Rangoon. It frequents flowering trees and shrubs, subsists chiefly on the nectar or honey found in flowers, but it also seems to consume a considerable number of minute insects.

A race of *Æ. siparaja* (*Æ. nicobarica*, Hume,) is said to be found in the Nicobars.

**728. *Æthopyga ignicauda*** (*Hodgs.*), *Cab. Mus. Hein.* i. p. 103, note (1850); *Reich. Handbk., Scansoriæ*, p. 302, No. 705, pl. 585, figs. 3973-75; *Jerd., B. Ind.* i. p. 365, No. 228 (1862); *Wald., Ibis*, 1870, p. 36; *Jerd., Ibis*, 1872, p. 17; *Shelley, Monog. Nect.*, p. 45, pl. 15. *Cinnyris ignicaudus*, *Hodgs. Ind. Rev.* ii. p. 273 (1837). *Cinnyris rubricauda*, *Blyth, J. A. S. B.* xi. p. 192. *Nectarinia phoenicura*, *Jerd., Monogr. Sun-birds*, pp. 242, 270, pl. 29. *Cinnyris epimacurus*, *Hodgs. in Gray's Zool. Misc.* 1844, p. 82.—The FIRE-TAILED RED-HONEYSUCKER.

Crown of the head, throat and foreneck rich dark shining purple, shaded laterally with brilliant violet; lores, cheeks and ear-coverts glossless or sooty black; nape, back of neck, hind part of supercilium, centre of mantle and of back, also the upper tail coverts, outer webs of tail feathers, and entire lengthened central tail feathers bright scarlet-crimson; a yellow band across the rump and lower back; wings and their coverts dusky, edged on their outer webs with greenish olive; chest bright yellow, washed with scarlet in the middle; rest of under surface of the body bright yellow, tinged with greenish in some. Bill black; legs brown; irides brown.

The male in winter plumage is olive green above; rump and under surface of body yellow; chin, cheeks and part of neck blue grey with a greenish gloss; breast washed with fiery red; tail and upper tail coverts intense igneous red.

The female is olive green above, rather brown on the crown and throat; rump yellow; tail washed with rufous and tipped paler; foreneck, sides of neck and head dull olive grey; rest of under parts olive yellow.

*Length.*—7 inches; wing 2·2 to 2·25; tail, the middle feathers, 3·9 to 4·2 inches; lateral feathers, 2·8 to 3; culmen 0·75 to 0·9; tarsus 0·63.

*Hab.*—Nepaul and Assam, also Sikkim, at Darjeeling and Bhootan and Sylhet. Jerdon says it appears in considerable numbers at Darjeeling during the month of May, at which time they are then putting on their nuptial plumage. It is not known where they go to breed, but it is probable they do so somewhere at the foot of the hills.

**729. *Æthopyga nipalensis* (Hodgs.),** *Cab. Mus. Hein.* i. p. 103 (1850); *Ferd. B. Ind.* i. p. 366, No. 229; *id. Ibis*, 1872, p. 17; *Walden, Ibis*, 1870, p. 35; *Hume, Nests and Eggs, Ind. B.* p. 147; *Gadow, Cat. B. Br. Mus.* ix. p. 26. *Cinnyris nipalensis*, *Hodgs., Ind. Rev.* ii. p. 273. *Nectarinia nipalensis*, *Fard. Monogr. Sun-birds*, pp. 236-238, pl. 27; *Blyth, J. A. S. B.* xii. p. 974; *Gadow, B. Asia*, pl. 27. *Nectarinia Horsfieldi*, *Blyth, J. A. S. B.* xii. p. 975; xvi. p. 472. *Æthopyga Horsfieldi*, *Reichb., Handbk. Scansoria*, p. 304; *Ferd., B. Ind.* i. p. 37, No. 230; *Wald., Ibis*, 1870, p. 36; *Shelley, Monogr. B. Ind.* p. 33, pl. 16, fig. 2.—The MAROON-BACKED HONEYSUCKER.

## PLATE.

Head, nape, and hindneck, also the upper half of throat, the upper tail coverts, two lengthened central tail feathers, and the outer margins of the others brilliantly glossy dark steel green; outer pairs of feathers with pale tips; lores and ear coverts black, the latter glossed with purple; sides of the neck and mantle dark glossless maroon-red; wing coverts, outer webs of the quills and centre of back olive yellowish; lower back and rump bright yellow; under wing coverts white; rest of under surface of the body bright yellow; chest feathers washed with scarlet; abdomen and flanks tinged with olive. Bill black; iris and feet dark brown.

*Adult female*.—Above dull olive green; crown tinged with greyish; edges of tail feathers more yellow; rump pale olive green; chin and throat greyish, passing into olive yellowish on the chest, and becoming still paler and more yellowish on the flanks and abdomen; under tail coverts deep yellow; under wing coverts and inner margins of quills white; tail largely tipped with whitish.

*Length*.—5·6 to 5·8 inches; wing 2·1 to 2·25; tail 2·5 to 2·8; tarsus 0·6 to 0·62; culmen 0·8 to 0·9.

*Hab.*—Eastern Himalayas from Nepaul to Bhootan and the Khasia hills. Extremely common at Darjeeling in gardens in and about the station. According to Hodgson's notes, quoted by Hume (*Nests and Eggs*), it begins to lay in April, and builds a comparatively large, oval, pensile nest, composed of moss and wool and lined throughout with silky down. The nest is attached to some leafy twig at an elevation of from 3 to 5 feet from the ground. It breeds in Nepaul in the central hilly region. Eggs, 2 to 3, moderately broad ovals, 0·68 × 0·43, white, with reddish mottlings towards the large end.

Dr. Gadow's observation in regard to this species is that it is represented in Western Nepaul and Gurhwal by *Æ. Horsfieldii*, which differs only by the absence of the deep maroon red colour of the mantle, which is olive, like the rest of the back; the deep red is, however, still visible on the sides of the lower neck and between the metallic parts of the hind neck and the mantle.

**730. *Æthopyga sanguinipectus*,** *Wald., Ann. and Mag. N. Hist.* 1875; xv. p. 400; *Hume, Str. F.* 1875, p. 402; *id. and Dav., Str. F.* 1878,

p. 182; *Hume, Str. F.* 1879, p. 89; *Shelley, Monogr. Nectar.*, p. 37, pl. 21; *Oates, B. Br. Burm.*, i. p. 313; *Gadow, Cat. B. Br. Mus.* ix. p. 27. *Æthopyga Waldeni, Hume, Str. F.* 1877, p. 51.—THE BURMESE YELLOW-BACKED SUN-BIRD.

### PLATE.

Forehead, crown, nape and hindneck purplish steel blue; sides of the head dull black; sides of the neck, the back, and the shorter scapulars red; lesser wing coverts, longer scapulars and a band on the back below and next to the red deep black; next this black band another yellow one; remainder of the rump, upper tail coverts, and the basal three-quarters of the central tail feathers steel blue; remainder of the tail, median, and greater wing coverts and the quills blackish brown; chin black; throat purplish steel blue; upper breast black, the lateral feathers tipped with red, remainder of the lower plumage pale yellow; the breast streaked with scarlet; under wing coverts and axillaries yellowish white. (*Oates.*)

Capt. Shelley describes the female as having the upper half of the head and back of the neck olive shaded ashy brown, with the centres of the feathers rather darker; back, scapulars, least and median series of wing coverts and the upper tail coverts olive green; remainder of the wings dark brown, with the greater series of coverts and the quills broadly edged with yellowish; across the lower back a band of very pale olive-tinted yellow; tail brownish black, the feathers edged with olive, and most of them with whitish tips, broadest on the outer ones; on the sides of the head a small black patch in front of the eyes, beneath which is a nearly white loreal band; chin and throat pale dusky olive; chest more olive; lower breast, abdomen and under tail coverts very pale olive yellow; thighs brown; flanks nearly white; under surface of the wings dark brown. Legs and feet very dark reddish or purplish brown; bill black; irides very deep brown. (*Davison.*)

*Length.*—5·5 inches; wing 2·1; tail 2·7; tarsus 0·5; culmen 0·7.

*Hab.*—Hills of Karenne in Burmah extending to Mooleyit in Tenasserim.

**731. *Æthopyga gouldiæ*** (*Vigers*), *Cab. Mus. Hein.* i. p. 103; *Jerd., B. Ind.* i. p. 364, No. 227; *Beavan, Ibis*, 1869, p. 419; *Stol. J. A. S. B.* xxxvii. pt. ii. p. 23; *Walden, Ibis*, 1870, p. 35; *Jerd., Ibis*, 1872, p. 16; *Blyth B. Burm.* p. 141; *Shelley, Monogr.* p. 41, pl. 14; *Oates, B. Br. Burm.* i. p. 315; *Gadow, Cat. B. Br. Mus.* ix. p. 28. *Cinnyris Gouldiæ, Vigers, P. Z. S.* 1831, p. 41; *Gould, Cent. Him. B.* pl. 56; *Blyth, J. A. S. B.* xi. p. 192. *Nectarinia Gouldiæ, Jerd., Monogr. Sun-birds*, pp. 233, 269; *Blyth, J. A. S. B.* xii. p. 974; *Gould, B. Asia*, pt. 21, pl. 6.—MRS. GOULD'S HONEYSUCKER.

Forehead, crown, chin, throat and posterior part of the ear coverts coppery red or burnished purple according to the light; lores blackish; a line of feathers over the lores crimson; cheeks, sides of the head and neck, entire mantle,

centre of back, scapulars and least wing coverts crimson or blood red; rump yellow; upper tail coverts rich purple or violet; basal three-fourths of the central tail feathers bright purple; terminal fourth brown; rest of tail feathers brown or blackish with large white tips, and tinged with purplish on their outer webs; wings and greater coverts dark brown, externally edged with yellowish brown or olive; lower plumage bright yellow, the breast more or less streaked with crimson; sides of the breast crimson; under wing coverts pale yellow, white in some. The adult female is like that of *Æ. nipalensis* but with the rump yellow. Bill black; legs brown; irides brown.

*Hab.*—The whole range of the Himalayas as far as the Sutlej; found in the hill tracts of Eastern Bengal, Tipperah, Chittagong; and, according to Blyth, Arrakan. Assam, Simla, Kumaon, Sikkim, and Khatee are also given as localities where it has been found.

**732. *Æthopyga dabryi* (J. Verr.),** *Dav. and Oust., Ois. Chine*, p. 80, pl. ii. (1871); *Anderson, Zool. Exp. Yunnan, Aves*, p. 663; *Hume and Davison, Str. F.* 1878, p. 180; *Shelley, Monog. Nect.* p. 39, pl. 13; *Hume, Str. F.* 1879, p. 89; *Oates, B. Br. Mus.* i. p. 314; *Gadow, Cat. B. Br. Mus.* ix. p. 28. *Nectarinia Dabryi*, J. Verr., *Rev. et. Mag. Zool.* 1867, p. 173, pl. 15. *Æthopyga debrii*, *Wald., Ibis*, 1870, p. 35; *id. in Blyth's B. Burmah*, p. 141.—DABRY'S SCARLET HONEYSUCKER.

Forehead, crown, chin, throat and ear coverts metallic purple or lilac, according to the light; nape, sides of the crown, feathers round the eye, sides of the neck, back, scapulars and lesser wing coverts deep crimson; rump bright yellow; upper tail coverts and basal two-thirds of the central tail feathers metallic purple; remainder of the tail black, the outer three pairs of feathers tipped with dull white; greater coverts and quills brown, edged with yellowish green or olive; breast scarlet, with a patch of metallic purple on either side; abdomen, vent, sides of the body and under tail coverts yellow, slightly tinged with dusky; under wing coverts and axillaries whitish.

The female has the upper plumage olive green, the feathers of the crown with dark brown centres; rump pale yellow; tail brown, edged narrowly with olive green, the three outer pairs of feathers tipped with dull white; quills brown, edged with dull greenish yellow, the whole lower plumage dull pale green. { }s dark horny brown; bill dusky black; irides deep brown; iris, bill and { } brown.

*Length.*—5·7 inches; wing 2·2 to 2·3; tail 2·6; tarsus 0·55; bill from gape ·7.

*Hab.*—British Burmah. Kachyin hills east of Bhamo on the borders of China and Karenne at an elevation of 4,000 feet; also the higher portions of Mooleyit in Tenasserim. Its habits are quite the same as the other species of Sun-birds; frequents large flowering trees.

Gen. **Cinnyris**.—*Cuv.*

Bill longer than the head, strongly curved, and much pointed; culmen keeled; no rectal bristles; first primary short; third, fourth and fifth longest; tail shorter than the wing; tarsus covered with transverse scales.

**733. *Cinnyris asiatica* (Lath.), Less., *Man. & Orn.* ii. p. 36; Vieill., *N. Dict. d'Hist. Nat.* xxxi. p. 493; Shelley, *Monogr. Nect.* p. 181, pl. 57; Legge, *B. Ceylon*, p. 566; Gadow, *Cat. B. Br. Mus.* ix. p. 57. *Cinnyris orientalis*, Frankl., *P. Z. S.* 1831, p. 122. *Cinnyris currucaria*, Sykes, *P. Z. S.* 1832, p. 98. *Nectarinia Mahrattensis*, Jard., *Monogr. Sun-Birds*, pp. 222, 264, pl. 24 (1843). *Nectarinia asiatica*, Blyth, *Cat. B. Mus. As. Soc. B.* p. 224; Gould, *B. Asia*, pt. 8, pl. 2. *Arachnethra asiatica*, Reichb., *Handb. Scansoriæ*, p. 295, No. 691, pl. 579; Jerd., *B. Ind.* i. p. 370, No. 234; Beavan, *Ibis*, 1865, p. 414; Walden, *Ibis*, 1870, p. 20; Hume, *Nests and Eggs, Ind. B.* p. 151; Ball, *Str. F.* 1874, p. 396; Hume, *Str. F.* 1875, p. 87; Armstrong, *tom. cit.* p. 313; Blyth and Wald., *Cat. B. Br. Burmah*; Butler, *Str. F.* iii. p. 462; Hume and Dav., *Str. F.* ii. p. 190; Murray, *Hdbk. Zool., &c., Sind*, p. 132; *id.*, *Vert. Zool., Sind*, p. 119. *Arachnethra intermedia*, Hume, *Ibis*, 1870, p. 436; Jerd., *Ibis*, 1872, p. 18; Hume, *Nests and Eggs, Ind. B.* p. 154.—THE PURPLE HONEYSUCKER.**

*Summer plumage*.—Head, neck, throat, breast, and back glossy greenish purple; abdomen purplish black; tail dull black, faintly white-tipped; wings dull black; a tuft of crimson and yellow feathers on the flanks behind the axil. In the winter garb, or non-breeding plumage, the upper parts are dull olive green, beneath yellow; shoulder and stripe from chin to vent brilliant glossy violet; wings and tail dusky. The female is olive grey above and olive yellow beneath; the breast and throat deep yellow; wings dusky; tail black. Bill and legs black; irides reddish brown.

*Length*.—4·5 inches; wings 2·25; tail 1·5; bill at front 0·75.

*Hab.*—Throughout India to Ceylon and Burmah; also Nepaul and Upper Pegu. Occurs in Beloochistan, S. Persia, S. Afghanistan, South India, Travancore, the Deccan, Kutch, Kattiawar, Jodhpore, and N. Guzerat. It is everywhere extremely common, and breeds during June and July, laying two eggs, which are greenish white, speckled and marked with a deep grey. The nest is pendulous, usually suspended from the end of the branch of a tree, and composed of wool, fibres, leaves, grasses, &c., with a hole at nearly the bottom for an entrance.

**734. *Cinnyris brevirostris* (Blanf.), Gadow, *Cat. B. Br. Mus.* ix. p. 59. *Nectarinia* (*Arachnethra*) *brevirostris*, Blanf., *Ibis*, 1873, p. 86; *id.*, *East. Persia*, ii. p. 220, pl. 14. *Cinnyris asiaticus*, Shelley, *Monogr. Nect.* p. 182. *Arachnethra asiaticus*, Murray, *Vert. Zool., Sind*, p. 119.—THE SHORT-BILLED PURPLE HONEYSUCKER.**



*Arachnechthra brevirostris.*





## PLATE.

*Male in breeding plumage.*—Upper parts with the sides of the head and neck very dark glossy metallic green, passing more or less into purple; in freshly moulted specimens almost as purple as in *Cinnyris asiatica*, but usually much greener; lores black; ear coverts with less gloss than the adjoining parts; wings and the larger coverts hair brown; tail feathers black, with a faint purplish gloss and sometimes, but not generally, with narrow pale tips; chin, middle of throat and upper breast rich metallic purple, with a shade of steel blue, the latter separated by a narrow pectoral band, not always well marked, of copper red, from the still darker bluish purple of the lower breast, abdomen and under tail coverts; on each flank behind the axil is the tuft of yellow and scarlet feathers characteristic of the group to which this species belong; iris brown. Bill and legs black.

The male in non-breeding plumage resembles the female, except that it has the usual purple stripe from the throat to vent, the rest of the under parts being pale grey, whilst the wings and tail are rather darker than in females, and there is a tinge of purple gloss on the smaller wing coverts and rectrices; the female is greyish brown above; quills and wing coverts hair brown, with pale margins; tail blackish brown, all the outer tail feathers tipped with whitish, the amount of white being largest on the outermost feathers, on which it extends some distance up the outer web; lower parts greyish white with more or less pale yellow on the throat and breast; chin white, also the abdomen; cheeks yellowish. (*Blanf.*) The species is closely allied to *C. asiatica*; but differs in being a little smaller with a considerably shorter bill, 0.53 to 0.68 against 0.7 to 0.88 in *asiatica*, and a green instead of purple gloss on the upper parts approaching in this respect to *C. osea*, Bp.

*Length.*—4.25 to 4.5; wing 2.1 to 2.23; tail 1.15 to 1.48; tarsus 0.6; culmen 0.53.

*Hab.*—Sind, Beloochistan, S. Persia, and the Persian Gulf. Mr. Blanford's experience is that its favourite resort is the thick tamarisk bushes along the beds of streams.

**735. *Cinnyris lotenia* (Linn.),** *Cuv. Regn. Anim.* i. p. 412; *Bp. C. A.* i. p. 408; *Shelley, Monogr. Nect.* p. 177, pl. 56; *Gadow, Cat. B. Br. Mus.* ix. p. 60. *Cinnyris politus*, *Vieill., N. Dict. d'Hist. Nat.* xxxi. p. 500; *Ferd., Madr. Journ.* xi. p. 225. *Nectarinia lotenia*, *Ferd., Monogr. Sun-birds*, pp. 220-263, pl. 23; *Blyth, J. A. S. B.* xii. p. 978; *Gould, B. As.* pt. viii. pl. 111. *Arachnethra lotenia*, *Cab. Mus. Hein.* i. p. 105; *Reichenb., Handb. Scansoriæ*, p. 294, pl. 579; *Ferd., B. Ind.* i. p. 372; *Walden, Ibis*, 1870, p. 23; *Holdsworth, P. Z. S.* 1872, p. 434; *Legge, B. Ceylon*, p. 563.  
—The LARGE PURPLE HONEYSUCKER.

Above brilliantly glossed with metallic green and purple; throat and breast rich purple; a narrow bright maroon collar or band below this and the sooty brown abdomen; flanks and under wing coverts sooty brown; pectoral tufts pure yellow. Bill and legs black; irides dark brown.

*Length*.—5·5 inches; wing 2·15 to 2·3; tail 1·5; tarsus 0·65; culmen 1·1 to 1·3. The female like that of *C. asiatica* is silky or greyish white on the under surface.

*Hab.*—Southern India and Ceylon. According to Jerdon common along the Malabar Coast, and the more wooded parts of the Carnatic as about Madras and other large towns.

**736. *Cinnyris minima*, Sykes, P. Z. S. 1832, p. 99; Sykes, J. A. S. B. iii. p. 543; Jerd., Madr. Journ. xi. p. 226; Legge, B. Ceylon, p. 572; Shelley, Monogr. Nect. p. 143, pl. 46; Gadon, Cat. B. Br. Mus. ix. p. 62. *Nectarinia minima*, Tick., J. A. S. B. ii. p. 277. *Nectarinia minuta*, Jard., Monogr. Sun-birds, pp. 224-265. *Leptocoma minima*, Horsf. and Moore, Cat. B. Mus. E. I. Co. ii. p. 742; Jerd., B. Ind. i. p. 369; Hume, Str. F. 1877, p. 42; id., Nests and Eggs, Ind. B. i. p. 150; Fairbk., Str. F. iv. p. 392.—The TINY HONEYSUCKER.**

Entire crown metallic green; throat metallic violet; ear coverts and loreal region black; hind neck and sides of neck and a broad collar across the foreneck and chest, also the back and wing coverts, rich bright sanguine or blood-red; rump and upper tail coverts metallic amethystine purple; *no distinct pectoral tufts*; under surface of the body pale lemon yellow. In winter plumage the male resembles the female, but retains invariably the amethystine rump, and usually a little red about the shoulder of the wing. (Hume.) The female is olive brown above, has a red rump, and the under parts are pale yellowish buff.

*Length*.—3·5 inches; wing 1·9; tail 1·3; tarsus 0·52; culmen 0·58.

*Hab.*—South-Western India and Ceylon. Found on the west coast of India, also on the Neilgherries to about 3,000 feet elevation, the Malabar Coast and Travancore.

**737. *Cinnyris zeylonica* (Linn.), Vieill, N. Dict. d'Hist. Nat. xxxi. p. 507; Hume, Vogt. pt. 7, pl. 4; Vieill, Enc. Meth. ii. p. 594; Hume, Str. F. v. p. 270; Cripps, tem. cit. p. 267; Legge, B. Ceylon, p. 569; Shelley, Monogr. Nect. p. 137, pl. 45. *Certhia zeylonica*, Linn., Syst. Nat. i. p. 188, No. 23. *Nectarinia zeylonica*, Jard., Monogr. Sun-birds, pp. 213, 261, pl. 20; Blyth, J. A. S. B. xii. p. 976; Gould, B. Asia, pt. 19, pl. 40. *Leptocoma zeylonica*, Cab. Mus. Hein. i. p. 104; Jerd., B. Ind. i. p. 368, No. 232; Beavan, Ibis, 1865, p. 232; Ball, Str. F. vii. p. 232; id. Str. F. vii. p. 208; Godw.-Austin, J. A. S. B. 1870, p. 267; Hume, Nests and Eggs, Ind. B. p. 147. *Nectarophila zeylonica*, Reichb., Handl. Scans. p. 282, pl. 570, figs. 3885-87.—The AMETHYST-RUMPED HONEYSUCKER.**

Head above and lesser wing coverts bright metallic glossy purplish green; upper back, scapulars and median wing coverts maroon brown; lower back and upper tail coverts metallic lilac, shaded with blue; tail brownish black, the outer feathers paler at the tips, the rest very slightly edged with metallic violet; remainder of the wing dark brown; the greater coverts and quills edged with rufous brown; cheeks and ear coverts deep coppery brown, shading into dull brown behind the ear coverts; under surface of the body sulphur yellow; chin and throat metallic lilac; sides of the neck and a pectoral collar maroon brown like the back; sides of the body and under wing coverts white. Bill and legs black; irides reddish brown.

*Length.*—4·1 to 4·5 inches; wing 2·25; tail 1·45; tarsus 0·75; culmen 0·65.

*The adult female* is ashy olive brown above; tail black, broadly tipped with white; crown ashy grey; foreneck silky white; a white eyebrow and a dark streak through the eye; chest and centre of abdomen sulphur yellow; under tail coverts paler yellow.

*Length.*—3·6 to 3·9; wing 2·1.

*Hab.*—Ceylon, the Indian Peninsula and Assam; not found in Sind and the N.-W. Provinces of India, otherwise it is generally spread throughout India, from the extreme south to Bengal, extends through Dacca into Assam. Abundant in Madras, Malabar, Mysore, Coorg, Pondicherry, the Carnatic, Deccan, Singbhoon, Maunbhoon, Kamptee, Sumbulpoor and Khasia hills. Seen in every garden flying from flower to flower. The species has not much of a note. Blyth describes it as having a weak shrill chant followed by frequent low chirps analogous to that of *Certhia familiaris*. In Calcutta, as well as in Madras, many are taken daily with birdlime for sale. It is said to lay at least twice a year, in February and August, and sometimes in December. The breeding season, Hume says, is variable. The nests are generally attached to the terminal twigs of branches, from 10 to 30 feet from the ground. In shape they are purse-like, with the aperture near the top. According to Mr. Morgan, the bird often selects a cobweb in which to build its nest, and this is so ingeniously built, that it is impossible to detect the existence of the nest unless the cobweb is examined. An average-sized nest is about 5·6 inches in length and about 3 in. diameter. It is composed of very fine grass or vegetable fibre, and the inner or egg chamber is lined with feathers or vegetable down, while the exterior is ornamented with flower buds, lichen, &c. Eggs, two in number; in shape and size quite like those of *C. asiatica*. Hume describes them as moderately broad ovals, a good deal elongated and usually pointed towards one end; the shell is delicate and close grained and almost devoid of gloss; the ground colour varies considerably; in some it is nearly pure white, but generally it is a dingy greenish or brownish white, much freckled, clouded and streaked with minute greyish brown or brown markings, which commonly form an irregular zone round the larger end, and sometimes a confluent cap. In

others the whole surface is finely and closely speckled so as to entirely conceal the ground colour.

**738. *Cinnyris hasseltii* (Temm.), Less. Man. d'Orn. ii. p. 31; Shelley, Monogr. Nect. p. 127, pl. 42; Sharpe, P. Z. S. 1879, p. 342; Oates, B. Br. Burm. i. p. 318. *Nectarinia hasseltii*, Temm. Pl. Col. 376, fig 3; Jard., Monog. Sun-birds, pp. 218, 262, pl. 22; Blyth, Cat. B. Mus. As. Soc. p. 226, No. 1370; Sclater, P. Z. S. 1863, p. 220. *Cinnyris ruber*, Less., Traite d'Orn. p. 296. *Nectarinia Phayrei*, Blyth, J. A. S. B. xii. p. 1008. *Leptocoma hasseltii*, Cab. Mus. Hein. i. p. 104; Moore, P. Z. S. 1859, p. 462; Hume, Str. F. 1874, p. 473. *Nectarophila hasseltii*, Reich., Hdbk. Scansoriae, p. 280, No. 650; Sharpe, P. Z. S. 1875, p. 106. *Certhia brasiliiana*, Gm. S. N. i. p. 474. *Nectarophila brasiliiana*, Walden, Ibis, 1870, p. 41; Stol. J. A. S. B. xxxix. p. 300. *Cynnyris brasiliiana*, Hume, Str. F. v. p. 27. *Leptocoma brasiliiana*, Hume and Dav., Str. F. vi. p. 184.—VAN HASSELT'S HONEY-SUCKER.**

Forehead, crown and nape shining metallic golden green; sides of the head and neck and the upper half of the back and scapulars black; lesser wing coverts, scapulars, lower back, and upper tail coverts brilliant steel blue with green and violet reflections; remainder of the wings black; tail blue black, the feathers edged with steel blue; chin and throat rich metallic lilac, or amethystine purple; breast and upper abdomen rich red; lower abdomen, sides of the body, vent, under tail coverts, also the under surface of the wings, black. Bill and legs black; irides dark brown or hazel; eyelids plumbeous.

*Length*.—4 inches; wing 1·9; tail 1·2; tarsus 0·5; culmen 0·5.

*The female* has the forehead and crown grey, the feathers dark centred and edged with green; rest of the upper plumage with the lesser wing coverts and scapulars pale greenish yellow; the feathers of the rump, upper tail coverts, lesser wing coverts and scapulars darker centred; greater coverts dark brown, edged with greenish; quills dark brown, edged exteriorly with cinnamon; throat yellowish white; feathers round the eye, the lores, ear coverts, sides of the neck and upper breast dull greenish yellow; lower breast, abdomen, vent and sides of the body pure yellow; under wing coverts yellowish white; under tail coverts paler; tail black, edged near the base with cinnamon and tipped with white, the outermost pair entirely whitish. Bill and legs black; irides brown.

*Length*.—3·5 inches; wing 1·75; tail 1·1; tarsus 0·5; culmen 0·5.

*Hab.*—Hill Tipperah and Chittagong, Arracan, Southern Burmah, Tenasserim, the entire Malay Peninsula, and the Islands of Sumatra, Java and Borneo. It is sparingly distributed over most parts of British Burmah. Blyth received it from Arracan, and it has been frequently met with by Oates in Pegu in the neighbourhood of that town, and also at Kyeikpadien. Davison got it in Tenasserim, from Moulmein down to Malewoon. Oates says it is found

chiefly in open jungle and gardens, wandering about from shrub to shrub. The nest is suspended from the end of a twig by a cord of bark fibres 2·5 inches in length, at the end of which it swells gradually into the shape of a pear with an oval aperture at one side near the top. Eggs, two in number, 0·72 × 0·50, a nearly uniform oval. Colour white, clouded with a greyish zone towards the large or obtuse end, and thickly striped longitudinally with irregular rufous brown bands.

**739. *Cinnyris flammaxillaris* (Blyth),** *Bp. C. A. i.* p. 408, No. 45; *Shelley, Monogr. Nect.* p. 161, pl. 51; *Oates, B. Br. Burm.* i. p. 320. *Nectarinia flammaxillaris*, *Blyth, J. A. S. B.* xiv. p. 557; xv. p. 370 (1846). *Arachnethra flammaxillaris*, *Wald., P. Z. S.* 1866, p. 541; *id., Ibis*, 1870, p. 24; *Hume, Nests and Eggs*, p. 154; *Blyth, B. Burm.* p. 141; *Armstrong, Str. F.* iv. p. 313; *Oates, Str. F.* v. p. 148; vii. p. 40; *Hume and Davison, Str. F.* vi. p. 192; *Gadow, Cat. B. Br. Mus.* ix. p. 83. *Cinnyris andamanicus* (*Hume*), *Shelley, Monogr. Nect.* p. 157, pl. 50. *Arachnethra andamanica*, *Hume, Str. F.* 1873, p. 404; *id., Str. F.* 1874, pp. 60, 105, 109, 198. *Arachnethra frenata*, *Ball, J. A. S. B.* xli. p. 280.—**THE BURMESE YELLOW-BREASTED HONEYSUCKER.**

Forehead, crown, sides of the head, back, scapulars, rump and upper tail coverts greenish brown; tail black, the centre feathers narrowly tipped with white, the others progressively with larger white tips; chin, throat and breast rich metallic purple, bordered by rich steel-blue below the breast; a band of orange red and another black and broader one below it; axillaries flame red; abdomen, sides of the body, vent and under tail coverts yellow; wings and coverts brown, edged with greenish brown; under wing coverts yellowish white, edge of the wing bright yellow.

*The female* has the upper plumage, wings and tail like the male, but the lower plumage is entirely yellow. Bill and legs bluish black; irides light brown.

*Length.*—4·5 inches; wing 2·1; tail 1·4; tarsus 0·55; bill from gape 0·8. (*Oates.*)

*Hab.*—The whole of British Burmah. Recorded from Arracan by Blyth and Dr. Cantor. Lieut. Wardlaw-Ramsay collected it at Rangoon, Pegu and in the Tonghoo hills. Oates also met with it in Pegu, and Capt. Beavan secured it at Kyodan, and on the Salween river. It extends down the Malay Peninsula and ranges into Siam and Cochin-China, in which latter country Dr. Tiraud states that it is most abundant. Oates, in his *Birds of Burmah*, says it is perhaps the best known of all the Sun-birds in Burmah, for it is a most familiar and fearless little bird. It is quite often seen hovering about flowers growing close to the verandah of a house as well as in the forest, and is generally found in pairs. It secures nectar from the flowers, either by poisoning itself in the air, or by perching quite close to the flower and bending

over its head. The male during the dry weather, Oates says, has a jubilant song, and when singing it perches itself on the top-most branch of a bamboo clump or tree. The nest is a beautiful pear-shaped structure, six or eight inches in length, with a small circular hole about the centre for an entrance: This hole is overhung by a portico, projecting an inch or more from the body of the nest. The materials used are fine grasses; and the exterior of the nest is covered with cobwebs, to which are attached pieces of bark, dead leaves and cocoons in such a way that it is most difficult to discover the nest, which is usually suspended from the tip of a low branch quite near the ground. The eggs are two in number, and are greenish white, marked with greyish ash.

I have followed Dr. Gadow in uniting with this species the Andaman race, *C. Andamanicus*, which differs from it only in the slightly longer bill and in the paler colouration of the breast and axillary tufts, and in the less extent of the non-metallic breast band. Another closely allied species is *Cinnyris pectoralis*, found in the Nicobars and the Malayan Peninsula. It has the foreneck and cheeks metallic blue, with a purple or greenish gloss, and wants the superciliary streak. The pectoral tufts are gamboge yellow, and the loreal and preocular region black, all the other parts are as in *flammarillaris* and *andamanica*.

#### Gen. *Arachnothera*.—Temm.

Bill very long, moderately curved, either rounded or keeled, the base broad and somewhat three-sided; tip entire; nostrils basal, small, longitudinal, covered by a membrane, operculated laterally in the form of a slit; nasal bristles none; wings long; the first primary short; tip of wing formed by the third, fourth and fifth primaries, which are longest. Tail short, about half the length of the wing, broad, and even; tarsus covered with scales, which are often fused into one; legs large and strong; plumage of back and rump often long and fluffy. Males generally with pectoral tufts.

**740. *Arachnothera longirostris* (Lath.), Temm. Pl. Col.** pl. 388, text; Lesson, *Man. d'Orn.* ii. p. 32; *id.*, *Traité d'Orn.* i. p. 292; Blyth, *Cat. Mus. As. Soc.* pp. 222, 347; Bp., *C. A.* i. p. 409; Hume and Dav., *Str. F.* vi. pp. 174, 507 (1878); Hume, *Str. F.* vii. p. 35; Shelley, *Monogr. Nect.* p. 357, pl. 114; Hume and Dav., *Str. F.* 1878, p. 330; Hume, *Str. F.* 1879, p. 330; Oates, *B. Br. Burm.* i. p. 330. *Certhia longirostra*, Lath., *Ind. Orn.* i. p. 299. *Cinnyris longirostris*, Vieill., *N. Dict. d'Hist. Nat.* xxxi. p. 504. *Arachnothera affinis*, Blyth, (*nec. Horsf.*), *J. A. S. B.* xv. p. 43. *Arachnothera pusilla*, Blyth, *Cat. B. Mus. As. S. B. App.* p. 328; Ferd., *B. Ind.* i. p. 361, No. 224; Beavan, *Ibis*, 1867, pp. 322, 334; Ball, *Str. F.* 1873, p. 64; Hume, *Str. F.* 1874, p. 473; 1875, p. 85; Blyth, *B. Burm.* p. 140; Gadow, *Cat. B. Br. Mus.* ix. p. 103.—**THE LITTLE SPIDER-HUNTER.**

Upper surface of the body olive, more yellow on the back and scapulars; crown dark brown, with olive edges to the feathers; wings dark brown, the lesser and median coverts olive or broadly edged with that colour; greater series of coverts and the quills with broad olive yellow margins to their outer webs; tail brownish black, the feathers margined with olive and with white ends, broadest towards the outer feathers; sides of the head ashy brown, with a space in front and beneath the eye and a very light eyebrow white; a dark loreal band, chin and throat white; breast, abdomen and under tail coverts bright yellow; pectoral tufts deep chrome yellow; under surface of the wings brown, with the inner margins of the quills and the coverts white; upper mandible black; lower mandible as well as the legs and feet leaden grey; irides dark brown.

*Length*.—5·75 to 6·5 inches; wing 2·8; tail 1·9; tarsus 0·7; culmen 1·65.

The *adult female* is similar in plumage to the male, except that the pectoral tufts are absent.

*Hab.*—South India, Bengal, Tipperah, Chittagong and Arracan hills; also Tenasserim and southern portion of the Malay Peninsula, the Andaman Islands and the islands of Sumatra, Java, Borneo and Celebes. It has been found also in the Wynaad and in parts of Mysore and Travancore, also on the Neilgherries and the Malabar Coast. Shelley, quoting Hume and Davison, says that in the southern portion of the Indian Peninsula, it has been obtained from Kotagherry and other localities in the Neilgherries, but it is not so abundant as in Tenasserim, where it is the most widely-spread Spider Hunter and frequents the plantain gardens. It clings upside down to the purple bract-leaves of the young plantain bunches, with its head turned up inside the bract to suck the nectar from the flowers.

**741. *Arachnothera magna* (Hodgs.), Blyth, *J. A. S. B.* 1848, p. 981; 1846, p. 43; *id.*, *Cat. B. Mus. As. Soc.* p. 221; *Cab. Mus. Hein.* ii. p. 106; *Reichb.*, *Handb. Scansoriae*, p. 316, pl. 593, fig. 4023; *Ferd.*, *B. Ind.* i. 360; *Godwin-Aust.*, *J. A. S. B.* xxxix. p. 98; *Hume*, *Str. F.* 1874, p. 473; 1875, p. 85; *Blyth and Wald.*, *B. Burm.* p. 140; *Wald.*, *Ibis*, 1846, p. 307; *Shelley*, *Monogr. Nect.* p. 347, pl. 112, fig. i.; *Gammie*, *Str. F.* v. p. 385; *Hume and Dav.*, *Str. F.* 1878, pp. 173, 507; *Hume*, *Str. F.* 1879, p. 89; *Oates*, *B. Br. Burm.* i. p. 327; *Gadow*, *Cat. B. Br. Mus.* ix. p. 105. *Arachnothera aurata*, *Blyth*, *J. A. S. B.* xxiv. p. 478; *Hume*, *Str. F.* 1875, pp. 15, 85; *Blyth and Wald.*, *B. Burm.* p. 410; *Shelley*, *Monogr. Nect.* p. 351, pl. 112, fig. 2; *Hume and Dav.*, *Str. F.* 1879, p. 89; *Oates*, *B. Br. Burm.* i. p. 328.—THE LARGE SPIDER-HUNTER.**

FIG. at p. 212.

Forehead and crown olive yellow, each feather with a large black patch in the centre; lesser and median wing coverts the same; remainder of the upper



plumage olive yellow with distinct broad black shaft-stripes; greater wing coverts and tertiaries olive yellow with black shafts; primaries and secondaries dark brown margined with olive yellow; tail olive yellow, each feather with a band near the end, followed on all but the centre pair by a lighter patch of pale yellowish; sides of the head like the back, but paler; the entire under plumage pale yellowish, each feather with a broad streak of black. Bill black; iris brown; leg orange yellow; claws yellow.

*Length*.—7 inches; tail 2; wing 3·7; tarsus 0·8; bill from gape 1·8. The female is smaller.

*Hab.*—Nepaul, Sikkim, Assam, Khasia hills, Chittagong, Arracan, southward to Pahpoon, Tenasserim, Burmah and Pegu. Common in the Arracan and Tenasserim divisions, also in the Thoungyeen Valley. Abundant over many portions of Pegu (*A. aurata*), especially in the evergreen forests of the Pegu hills in the northern portion of the division. In both Sikkim and Nepaul, it is extremely common in the hills and valleys from an elevation of about two to five thousand feet, descending in the winter, when it is found as a straggler in the Doars and Terai. It breeds in Sikkim during May, building an excessively massive, deep cup-shaped nest, composed of vegetable fibre densely felted together, externally intermingled with portions of fine skeleton leaves and internally lined with soft grass. The nest is said by Mr. Gamble to be a nest structure usually suspended from about the middle of the under surface of a large plantain leaf, by numerous threads of plantain stem fibre attached to rather more than half the rim of the cup put through the blade of the leaf and knotted on the upper side. Eggs, 3 in number, moderately elongated ovals, considerably pointed and compressed towards the small end. The shell is fine and compact and has a very fair amount of gloss. The ground is a drab or sepia brown with occasionally a decided purplish tinge, and they are minutely stippled and speckled all over, but most densely so about the large end, with a deep purple which is almost black. In length they vary from 0·65 to 0·91 inch, and in breadth from 0·62 to 0·63.

**742. *Arachnothra modesta* (Eyton).** *Blyth, J. A. S. B.* xii. p. 981; xv. p. 43 (1846); *id.*, *Cat. B. Mus. As. Soc.* p. 222; *Bp. C. A.* i. p. 410; *Stal., J. A. S. B.* xxxix. p. 302; *Hume, Str. F.* 1874, p. 473; 1875, p. 85; *Blyth, B. Burm.* p. 140; *Hume and Dav., Str. F.* vi. pp. 176, 507; *Shelley, Monogr. Nat.* p. 353, pl. 113, fig. 1; *Oates, B. Br. Burm.* p. 329; *Gadow, Cat. B. Br. Mus.* ix. p. 107. *Anthreptes modesta*, *Eyton, P. Z. S.* 1839, p. 105.—THE GREY-BREASTED SPIDER-HUNTER.

Upper surface of the body yellowish olive; the centres of the feathers of the forehead and crown more dusky with black shaft stripes; wings of the same colour as the back, with the inner webs of the greater coverts and quills brownish black; tail yellowish olive with a broad terminal band, and the inner webs of all but the two centre feathers black, and having a clear white

subterminal spot on the inner webs of the four outer feathers on each side; sides of the head yellowish olive, shaded with ashy grey in front of the eyes and on the lower portion of the cheeks and ear coverts; under parts pale olive shaded with ashy; the feathers on the lower half of the throat with rather indistinct dusky brown shaft-stripes; under tail coverts dusky-olive broadly edged with pale buff; under surface of the wings dark brown; upper mandible black, the lower one reddish horn colour; iris brown.

*Length*.—6·5 to 7 inches; wing 3·3; tail 2·1; tarsus 0·7; culmen 1·4.

The female is similar in colour but a little smaller.

*Hab*.—Tenasserim from the extreme south up to the north-west spurs of Mooleyit mountain, extending down the Malay Peninsula. Found also in the islands of Sumatra and Java.

**743. *Arachnothera chrysogenys*, Temm., Pl. Col. 388, fig. 1; Dict. Class xv. p. 512; Blyth, J. A. S. B. xii. p. 981; xv. p. 43; Bp. Consp. Av. i. p. 410; Cab. Mus. Hein. i. p. 106; Sharpe, P. Z. S. 1875, p. 107; Hume, Str. F. 1875, pp. 85, 319; Sharpe, Ibis, 1877, p. 18; Tweed., tom. cit. p. 301; Shelley, Monogr. Nect. p. 365, pl. 117; Hume and Dav., Str. F. vi. p. 177; Sharpe, Ibis, 1879, p. 261; Oates, B. Br. Burm. i. p. 331; Gadow, Cat. B. Br. Mus. ix. p. 108. *Cinnyris longirostra*, Horsf., (nec. Lath.), Tr. Linn. Soc. xiii. p. 169. *Cinnyris chrysogenys*, Less, Man. & Orn. ii. p. 31.**—The LESSER or YELLOW-EARED SPIDER-HUNTER.

Upper surface of the body uniform dark olive green, with a yellowish tinge on the wings and the tail; space in front of and below the eye without feathers; a broad supercilium and the front of and lower half of the ear coverts bright yellow; remainder of the ear coverts olive; throat and front of the chest olive yellow, broadly but indistinctly streaked with yellow and dusky olive; under surface of the body and the under tail coverts bright yellow slightly shaded on the sides with olive; under wing coverts buff mottled with whitish. Legs and feet fleshy white; the bill darker horny brown; the edges of both mandibles to near the tip dirty yellow.

*Length*.—6 to 7 inches; wing 3·5; tail 1·7; tarsus 0·75; culmen 1·65.

*Hab*.—Tenasserim from Mergui down to Malewoon, where Davison found it. It ranges down the Malay Peninsula, and is found in the islands of Sumatra, Java and Borneo. Common in Cochin China. According to Dr. Tiraud, Mr. Davison, who got this species in Tenasserim, says of it that it affects gardens more than any of the other species, less so about cocoanut groves and forest trees.

#### Gen. *Anthothreptes*.—Swains.

Bill shorter than or equal to the rest of the head; culmen and gonyes rather straight; nostrils basal, operculated, exposed; first primary short; tip of wing formed by 3rd, 4th and 5th primaries; tail square or slightly rounded, shorter

than the wing; tarsus covered with scales, males with metallic colours, and sometimes with pectoral tufts.

**744. *Anthothreptes hypogrammica* (S. Müll.), *Bp. Consp. Av.* i. p. 409, No. 2; *Moore, P. Z. S.* 1859, p. 461, No. 186; *Hume and Dav., Str. F.* vi. p. 178 (1878); *Sharpe, Ibis*, 1879, p. 260; *Shelley, Monogr. Nect.* p. 305, pl. 98; *Hume, Str. F.* 1879, p. 90; *Oates, B. Br. Burm.* i. p. 323. *Nectarinia hypogrammica*, S. Müll., *Natural Gesch. Lands u. Volkenk.* p. 173; *Low, Sarawak*, p. 410; *Blyth, Cat. B. Mus. As. Soc.* p. 225, No. 1364; *Gadow, Cat. B. Br. Mus.* ix. p. 113. *Anthreptes nuchalis*, *Blyth, J. A. S. B.* xii. p. 980 (1843). *Arachnethra hypogrammica*, *Walden, Ibis*, 1870, p. 30. *Arachnethra macularia*, *Walden, Ibis*, 1872, p. 381.—The Banded Sun-Bird.**

Forehead, crown, nape, sides of the head and neck, back, scapulars and wing coverts yellowish olive; a collar on the back of the neck, lower back; rump and upper tail coverts steel blue; quills dark brown, broadly edged with olive yellow; tail dark brown, the feathers narrowly edged with olive yellow, and the two or three outer ones on each side tipped with white; under surface of the body pale yellow, rather whitish on the chin, and each feather with a broad olive brown band down the centre, forming broad streaks on the chin, throat, breast, abdomen and sides of the body; vent, flanks and under tail coverts uniform olive yellow; under surface of the wing dark brown, the inner margins of the quills and the coverts white. Bill black; legs greenish brown; irides brown.

*Length*.—5·5 to 5·6 inches; wing 2·6; tail 2·1; tarsus 0·65; culmen 0·75.

The female is a little smaller than the male, and has the same plumage, except that the entire upper parts are yellowish olive with no metallic or steel blue feathers.

*Hab.*—Southern Tenasserim, ranging down the Malayan Peninsula, to Sumatra and Borneo. Davison found it in the extreme south of Tenasserim, where, Oates says, it appears to be only a straggler. Müller found it in Sumatra and Borneo; it has also been got by Cantor at Penang. According to Hume and Davison's notes it is found in Tenasserim only to the southward of Mergui; thence it occurs, though everywhere a rare bird, southward to Johore and Singapore. The same indefatigable labourers in the cause of this branch of Natural History observes that in all its habits, mode of flight and voice it is closely allied to *Anthothreptes malaccensis*, being more of an insect-eater, than a honey-feeder, but unlike it, it affects forests and not gardens except occasionally.

**745. *Anthothreptes simplex* (S. Müll.), *Hume, Str. F.* iii. p. 319, No. 232; *Sharpe, Ibis*, 1877, p. 18; *Hume and Dav., Str. F.* vi. p. 188 (1878); *Shelley, Monogr. Nect.* p. 309, pl. 100; *Oates, B. Br. Burm.* i.**

p. 324; *Gadow, Cat. B. Br. Mus.* ix. p. 114. *Nectarinia simplex*, *S. Müll. Natuurl. Gesch. Land-en. Volkenk.* p. 173. *Nectarinia frontalis*, *Blyth, J. A. S. B.* xiv. p. 558 (1845). *Arachnethra simplex*, *Walden, Ibis*, 1870, p. 31. *Anthreptes xanthochlora*, *Hume, Str. F.* iii. p. 320. *Arachnophila simplex*, *Salvad., Nect. Born.* p. 172; *Tweed., Ibis*, 1877, p. 301.—THE PLAIN-COLOURED SUN-BIRD.

Forehead metallic green or blue black; rest of the upper plumage, including the wing coverts, olive yellow; tail deeper yellow; quills brown, edged with olive yellow; feathers in front of the eye dusky ash colour; cheeks and ear coverts olive, tinted with ashy; chin, throat and foreneck greenish ashy; rest of lower plumage dull oily yellow; pectoral tufts sulphur yellow; under surface of the quills ashy brown; under wing coverts white, washed with yellow. Bill blackish brown; base of mandible pale.

*Length.*—4·65 inches; wing 2·45; tail 2; tarsus 0·65; culmen 0·55.

The adult female is similar in plumage, but without the metallic forehead or pectoral tufts.

*Hab.*—Malay Peninsula, from Mergui, Southern Tenasserim to Singapore; also Sumatra and Borneo. Nothing is known of its habits.

**746. *Anthothreptes phœnicotis* (Temm.),** *Gadow, Cat. B. Br. Mus.* ix. p. 121. *Nectarinia phœnicotis*, *Tem., Pl. Col.* 108, fig. 1, 388, fig. 2. *Cinnerys phœnicotis*, *Less., Man. d'Orn.* ii. p. 38; *id., Traité d'Orn.* i. p. 298. *Anthreptes phœnicotis*, *Blyth, J. A. S. B.* xii. p. 979; *Shelley, Monogr. Nect.* p. 326, pl. 105. *Chalcoparia singalensis*, *Cab. Mus. Hein* i. p. 103; *Reichb., Handbk. Scansoriae*, p. 304; *Hume, Str. F.* 1875, p. 86; *Armstrong, Str. F.* 1876, p. 313. *Chalcoparia phœnicotis*, *Bp. C. A.* xxxix. p. 265; *Blyth and Walden, B. Burm.* p. 142; *Tweeddale, Ibis*, 1877, p. 303. *Anthreptes singalensis*, *Wald., P. Z. S.* 1866, p. 543; *Hume, Str. F.* 1877, p. 28; *Oates, B. Br. Burm.* i. p. 326. *Chalcoparia singalensis*, *Wald., Ibis*, 1870, p. 48; *Hume and Davison, Str. F.* 1878, p. 189; *Hume, Str. F.* 1879, p. 90.—THE RUBY-CHEEKED SUN-BIRD.

The whole upper plumage rich metallic green, including the least and median series of wing coverts and broad margins to the greater wing coverts and tail feathers; remainder of the wings and tail black; the quills more or less glossed with metallic violet on their outer webs; sides of the head including the upper eyelid ruby-copper, margined beneath by a band of metallic lilac shaded with steel blue; lores blackish; chin, throat and fore part of the chest fawn-colour or ferruginous buff; abdomen, sides of the body, vent and under tail coverts yellow; under wing coverts pale yellow. Bill black; gape orange yellow; mouth yellow; iris lake red; legs yellowish green.

*Length.*—4·2 to 4·4 inches; wing 2·1; tail 1·6; tarsus 0·65; culmen 0·5.

The female is slightly smaller; the upper plumage and the lesser wing coverts are olive green; ear coverts and cheeks slate colour; greater coverts and wings dark brown, edged with yellowish green; tail brown, also edged with yellowish green; the lower surface of the body yellow.

*Length*.—3·6 inches; wing 2; tail 1·6; tarsus 0·6.

*Hab.*—Bhootan, Assam, Sylhet, Tipperah, Arracan, Southern Pegu, Tenasserim, Malay Peninsula, Sumatra, Java and Borneo. According to Hume and Davison's notes, the most northern point from which this beautiful Sun-bird has been obtained is the Bhootan Dooars; thence it stretches southward along the Brahmapootra, and eastward across into Assam, the Khasia hills, Dacca, Chittagong and Pegu, avoiding, however, the dry northern portion of the latter province, but being common enough about Rangoon and the neighbourhood of Sittang in southern Pegu, where Oates found it breeding from May to July or August. He says, "the nest is hung from the tip of a branch, sometimes not far from the ground; at other times high up in a mango tree. It is always well protected by leaves, and is a beautiful pear-shaped structure, constructed in most cases entirely of black hair-like fibres, and ornamented exteriorly with cocoons, pieces of bark and small twigs. The eggs, two in number, are pinkish white, marked with brown and purplish brown. Except when breeding it is found generally in small troops traversing the low bushes with a low twitter, and searching the leaves for minute insects. At other times it frequents flowering trees and shrubs, and parasitic plants, and is found in gardens as frequently as in jungles.

**747. *Anthothreptes malaccensis* (Scop.).** *Cab. Mus. Hein*, i. p. 104; *Blyth and Wald.*, *B. Burm.* p. 142; *Walden, Ibis*, 1876, p. 348. *Anthreptes malaccensis*, *Reichb.*, *Handbk. Scansoriae*, p. 305, pl. 588; *Wald.*, *Ibis*, 1870, p. 47 (pt.); *Hume, Str. F.* 1874, p. 473; *Shelley, Monogr. Nect.* p. 316, pl. 101, fig. 2; *Hume and Dav.*, *Str. F.* 1878, p. 186; *Hume, Str. F.* 1879, p. 90; *Oates, B. Br. Burm.* i. p. 324. *Anthreptes celebensis*, *Shelley, Monogr. Nect.* p. 319, pl. 103, figs. 2 and 3. *Certhia malaccensis*, *Scop.*, *Del. Flor. et Faun. Insubr.*, ii. p. 91. *Nectarophila malaccensis*, *Stol.*, *J. A. S. B.* xxxix. p. 301.—THE MALACCAN BROWN-THROATED SUN-BIRD.

Forehead, crown, nape, back and sides of the neck metallic green or coppery red according to the light; lower back, rump, upper tail coverts and the lesser wing coverts rich metallic violet; median series of wing coverts, edges of the greater coverts and a portion of the scapulars maroon brown; remainder of the wing dark brown with olive edges to the feathers; tail bluish brown, the feathers edged with metallic violet and green; lores and sides of the head dull greenish yellow; a stripe from the gape down the sides of the throat coppery

purple; chin and throat cinnamon or maroon brown; lower plumage rich yellow tinged with greenish on the flanks and vent; under wing coverts and axillaries yellowish white. Bill dark brown; irides red; legs yellowish green.

*Length*.—5 inches; wing 2·6 to 2·7; tail 1·8 to 1·9; tarsus 0·6; bill from gape 0·8; culmen 0·65.

The female has the upper parts olive green; wings and tail dark brown, the feathers edged with olive yellow; under surface of the body yellow, paler on the chin, and washed with olive on the throat and sides of the body; tail brown, tipped very narrowly with whitish and edged on the outer webs with yellowish green.

*Hab.*—Arracan, Southern Burmah, Siam, Cambodia, the Malay Peninsula and the Island of Penang; Sumatra, Java, Borneo, Flores, Labuan, Palawan and Celebes. Tenasserim is also given as a locality where Mr. Davison met with it from Amherst downwards. South of Mergui along the western coast of the Malay Peninsula to its extremity at Singapore it is said to be one of the most common of all the Sun-birds, occurring in large numbers in every garden. Both this and *A. hypogrammica*, according to Hume and Davison, differ in their habits from the more typical Sun-birds, feeding as they do more largely on insects. According to Captain Shelley, the nest of this species is oval in form, with a hole at one side near the top. It is loosely constructed of cocoanut fibres, shreds of bark and a few dead leaves, which bind together the white silk-like down of some plant seeds, giving consistency to the structure, but not specially forming the lining.

### Family—MELIPHAGIDÆ.

Bill variable in length, but always with a prominent culmen, broadened out at the base, curved, and almost always with a slight notch; maxilla serrated. Nostrils basal, situated in a large unossified groove which is quite soft and membranous, either longitudinal and with a well-developed coriaceous operculum, or oval, and situated in front of a coriaceous groove; never entirely covered with feathers. Tongue protractile, bifid, each half broken up into numerous stiff horny fibres, so as to form a brush; wings, tail and tarsus variable in shape and length, plumage greenish or greenish yellow; in the *Myzomelinæ* red, generally nude wattles on the ears or cheeks or round the eye. (*Gadow*.)

This family is divided by Dr. Gadow into three sub-families, viz., 1, *Myzomelinæ*; 2, *Zosteropinæ*; and 3, *Meliphaginæ*; three species of the second of which only are known in India.

### Sub-family—ZOSTEROPINÆ.

Bill shorter or equal to the length of the head; a ring of whitish feathers round the eye; 1st primary absent or very short.

Gen. *Zosterops*—*Vig.*

Bill of about the same length as the head, wide at base, somewhat conic, acute at the tip and slightly but distinctly notched; culmen slightly curved; rictus smooth; eyes surrounded by close-set minute white feathers; nostrils longitudinal exposed; wings moderate; 1st primary extremely short; sometimes absent; 3rd and 4th primaries longest and forming the tip of the wing; tail short, even; tarsus moderate, covered in front with a few scales; toes strong; outer syndactyle.

**748. *Zosterops palpebrosa* (Temm.), Blyth, *J. A. S. B.* xiv. p. 563; *Bp., Consp. Av.* i. p. 398; *Kelaart, Prod. Cat.* p. 121; *Jerd., B. Ind.* ii. p. 265, No. 631; *Stol., J. A. S. B.* xxxvii. p. 51; *Beavan, Ibis*, 1868, p. 82; *Brooks, Ibis*, 1869, p. 57; *Holdsw., P. Z. S.* 1872, p. 458; *Hume, Nests and Eggs, Ind. B.* p. 397; *Cock. and Marsh, Str. F.* 1873, p. 356; *Adams, t. c.* p. 384; *Hayes, Lloyd, Ibis*, 1873, p. 412; *Legge, Ibis*, 1874, p. 22; *Ball, Str. F.* 1874, p. 417; *Hume, Str. F.* 1875, p. 143; *Brooks, t. c.* p. 252; *Buller, t. c.* p. 491; *Blyth and Wald, B. Burm.* p. 110; *Fairbk., Str. F.* 1876, p. 260; *id.*, 1877, p. 407; *David and Walden, Str. F.* 1878, p. 84; *Butler, Cat. B. Sind*, p. 42; *Legge, B. Ceylon*, p. 582; *Hume, Str. F.* 1879, p. 104; *Vidal, Str. F.* 1880, p. 69; *Butler, t. c.* p. 413; *Hume, t. c.* p. 413; *Gadow, Cat. B. Br. Mus.* ix. p. 165; *Murray, Vert. Zool. Sind*, p. 174. *Sylvia palpebrosa*, *Temm., Pl. Col.* 293, fig. 3 (1824). *Zosterops Madraspatensis*, *Jerd., Madr. Journ.* xi. p. 7. *Zosterops nicobarica*, *Blyth, J. A. S. B.* xiv. p. 563. *Zosterops simplex*, *Swinh., Ibis*, 1861, p. 331; *Gould, B. Asia*, part xxiii.; *Hume, Str. F.* 1878, vol. ii. p. 403; *id., Str. F.* 1879, p. 104. *Zosterops nicobariensis*, *Hume, Str. F.* 1874, p. 242; 1879, p. 104. *Zosterops palpebrosa-nicobariensis*, *Hume, Str. F.* 1876, p. 291.—**THE WHITE-EYED TIT.****

Head, nape, back, scapulars, rump and upper tail coverts siskin green, yellowish on the upper tail coverts; chin, throat and upper breast canary yellow; eyes with a circle of white feathers; lower breast, abdomen and flanks white with a bluish tinge; vent, under tail and thigh coverts yellow; primaries, secondaries and tertiaries brown, edged externally with the colour of the back, all margined white on their inner webs, except the innermost tertiaries; edge of wing and under wing coverts yellowish; tail brown, the feathers margined on their outer webs with greenish, and on their inner webs with whitish. Bill blackish brown; legs horny brown.

*Length*.—4·5 inches; wing 2·3; tail 1·7; bill at front 0·33 to 0·4; tarsus 0·75.

*Hab.*—India generally to Assam, Arracan, Nepal and Ceylon; also Sind, (probably Kutch), Rajputana, Deccan, Concan, Central and Southern India, also the Burmese countries eastwards into South China; Andaman Islands, and Nicobars. Found wherever it occurs in small flocks moving from tree to tree with

a low twitter, searching for insects among the leaves. It breeds throughout India, sparingly in the hotter parts, and abundantly in the Neilgherries and other ranges of the Peninsula to their very summit, and in the Himalayas to an elevation of 5,000 or 6,000 feet. The breeding season lasts from January to September; sometimes they have two broods. The nest is a soft delicate little cup, sometimes very shallow and at other times deep, and, as a rule, suspended between two twigs. The materials of which it is made are various, as fine grasses, grass roots, fibres, thread, floss-silk and cobwebs. The eggs are usually two in number, and pale blue in colour, and vary in length from 0·53 to 0·7 and in breadth from 0·42 to 0·58.

Mr. A. G. Cardew's experience in the Neilgherries is that out of a dozen nests or more at least five-sixths were built in the common *Berberis aristata*. The eggs, always two, are a delicate blue with a greenish tinge. Breeds February—April. It is known as Pa-Chit-Tam or Flower-Small-Bird.

**749. *Zosterops aureiventer*, Hume, Str. F. 1878, p. 519; Nicholson, Ibis, 1880, p. 152; Gadow, Cat. B. Br. Mus. ix. p. 163. *Zosterops lateralis* (nec Lath.), Harth., J. F. O. 1865, p. 15 (ex. Temm. MSS.); Tweed., Ibis, 1877, p. 303; Hume and Dav., Str. F. 1878, i. p. 452; Hume, Str. F. 1879, pp. 65, 104, 497. *Zosterops Buxtoni*, Nicholson, Ibis, 1879, p. 167; Oates, B. Br. Burm. i. p. 346.—TEMMINCK'S WHITE-EYED TIT.**

Similar to *Z. palpebrosa*, but differing in having the tail black but without any greenish yellow margins, in being smaller and greener above and having a very black wing; sides of the breast grey; breast and abdomen, also the chin and throat, washed with bright yellow. Bill black; legs and feet slaty blue; iris grey.

*Length*.—3·4 inches; wing 1·95; tail 1·1; tarsus 0·55; culmen 0·45.

*Hab*.—Southern Tenasserim near Tavoy, where Mr. Davison obtained it. It also occurs down the Malayan Peninsula to Sumatra, Java and Timor.

**750. *Zosterops Siamensis*, Blyth, Ibis, 1867, p. 34; Wald., Ibis, 1876, p. 350, pl. 10, fig. 1; Hume and Dav., Str. F. 1878, p. 375; Hume, Str. F. 1879, p. 104; Oates, B. Br. Burm. i. p. 343; id., Str. F. x. p. 228; Gadow, Cat. B. Br. Mus. ix. p. 180. *Zosterops palpebrosa* (nec T.), Tickell, MSS. teste Walden, Ibis, 1876, p. 350. *Zosterops Austeni*, Wald. in Blyth, B. Burm. p. 111; Hume and Dav., Str. F. 1878, p. 376; Hume, Str. F. 1879, p. 104.—THE SIAMESE WHITE-EYED TIT.**

Lores and a small patch under the eye black, a circle of feathers round the eye white; general colour olive yellow, brightest on the under surface of the body, duller on the mantle, back, scapulars and lesser wing coverts; median and greater coverts margined with deep olive yellow; bastard wing and primary coverts dusky, the former tipped and the latter edged with yellow; quills dusky brown, externally edged with olive yellow; rump and upper tail coverts brighter yellow than the back; tail dusky, margined externally with olive



yellow; crown of the head, nape and hind neck olive yellow; ear coverts olive yellow; cheeks, throat, foreneck and breast golden yellow; under wing coverts and axillaries pale yellow; thighs and under tail coverts bright yellow. Bill horny, plumbeous at the base of the lower mandible and at the angle of the mouth; feet and claws light plumbeous; iris light reddish brown.

*Length*.—4 to 4·2 inches; wing 1·95 to 2; tail 1·6; tarsus 0·55; culmen 0·45.

*Hab.*—Siam, extending into Burmah. Oates says it is abundant in Southern Pegu from Rangoon up to Kyeikpadien and Pegu. Mr. Davison met with it in Tenasserim, and Capt. Wardlaw-Ramsay procured it in Karenne. It is found only in forests and remote orchards in high trees, to the tops of which it persistently keeps.

### Section.—FRINGILLIFORMES.

Wings with generally *nine* primaries; the first well developed and long, except in *Prionochilus* and *Pardalotus*.

### Family.—DICÆIDÆ.

Bill moderate, broad at the base, the culmen curved; tip entire; wings with nine primaries; habits nearly similar to those of the Sun-birds.

### Gen. *Dicæum*.—*Cuv.*

Bill creeper-like, broad at the base; tip entire; culmen curved; wings with the first three primaries sub-equal, the second slightly the longest; tail short, exceeding the wing in length. Birds of small size.

**751. *Dicæum cruentatum* (Linn.),** *Strickl., Ann. and Mag. Nat. Hist.* xiii. p. 38; *Bp. Consp. Av.* i. p. 402; *Cab. Mus. Hein.* i. p. 98; *Tytlér, Ann. and Mag. Nat. Hist.* (4) xiii. p. 373; *Gould, B. Asia*, pt. vi. (1854); *Wald., P. Z. S.* 1866, p. 544; *Hume, Nests and Eggs, Ind. B.* p. 155; *id., Str. F.* 1874, p. 473; 1875, p. 87; *Blyth and Wald., B. Burm.* p. 142; *Hume, Str. F.* 1875, p. 87; *Armstrong, Str. F.* 1876, p. 315; *Hume and Dav., Str. F.* 1878, p. 192; *Anderson, Yunnan. Exped.* p. 663; *Oates, B. Br. Burm.* i. p. 332; *Sharpe, Cat. B. Br. Burm.* x. 15. *Certhia cruentata*, *Linn., Syst. Nat.* i. p. 87; *Lath., Ind. Orn.* i. p. 296. *Dicæum erythronotum*, *Cuv., Regne. Anim.* i. p. 410; *Blyth, J. A. S. B.* xii. p. 983. *Dicæum coccinæum*, *Gray, Gen. B.* i. p. 100; *Ferd., B. Ind.* i. p. 373; *Beavan, Ibis*, 1866, p. 365; *Godwin-Austen, J. A. S. B.* xxxix., p. 99; *Ferd., Ibis*, 1872, p. 18.—The SCARLET-BACKED FLOWER-PECKER.

Forehead, crown, nape, back, rump and upper tail coverts rich crimson; lores, sides of the head and neck, also the tail, wings and wing coverts black; chin, throat and the whole lower plumage buffy white; flanks and sides of the body ashy grey; axillaries and under wing coverts pure white. Bill and mouth black; legs and feet black; iris dark brown; eyelids plumbeous.

The female has the head, nape and back olive green or yellowish olive, a little deeper on the hind neck and mantle, the centres of the feathers of the crown darker; rump and upper tail coverts bright scarlet; scapulars and wing coverts dull steel-green, edged with olive; quills dusky with narrow olive margins; tail blue black; ear coverts pale brown; lores and cheeks ashy fulvous, the bases of the feathers dusky; throat and under surface of the body ashy buff, darker on the sides of the neck and body; axillaries and under wing coverts white.

*Length*.—3·3 to 3·5 inches; wing 1·9; tail 0·95 to 1·05; tarsus 0·5; culmen 0·45.

*Hab.*—S.-E. Himalayas, throughout the Burmese countries and Southern China to Hainan and down the Malayan Peninsula to Java and Sumatra. According to Oates it is found over every portion of British Burmah. It is recorded from Arracan, also as being abundant in Southern Pegu, as well as at Thayetmyo. Mr. Davison procured it in every portion of Tenasserim. It is said to be more plentiful in Lower Bengal and Assam, also in Nepaul, occurring in all descriptions of jungle, but, according to Oates, most partial to mango trees, and other large trees covered with parasitic plants. Breeds in March and April, building a nest suspended from the extremity of a branch high up. It is egg-shaped and about 4 inches in height, and constructed of the finest white vegetable down. Eggs, 2—3 in number, pure white.

**752. *Dicæum trigonostigma* (Scop.), Gray, Gen. B. i. p. 100; Bp. Consp. Av. i. p. 403; Cab. Mus. Hein. Th. i. p. 98; Reichb., Hdbk. Sessoria, p. 241; taf. dlvii., fig. 3, 3788-89; Sclater, P. Z. S. 1863, p. 220; Wald., P. Z. S. 1866, p. 545; Beavan, Ibis, 1869, p. 422; Godwin-Austen, J. A. S. B. xxxix. p. 303; Hume, Str. F. 1874, p. 473; Salvad., Nec. Born. p. 166; Blyth, B. Burm. p. 142; Wald, Ibis, 1876, p. 349, pl. x., fig. 2; Hume and Dav., Str. F. vi. p. 194; Hume, Str. F. viii. p. 90; Bingham, Str. F. viii. p. 195; Sharpe, P. Z. S. 1881, p. 796; Oates, B. Br. Burm. i. p. 336; Sharpe, Cat. B. Br. Mus. x. p. 38. *Certhia trigonostigma*, Scop., Del. Flor. et Faun. Insubr. ii. p. 91. *Certhia cantillans*, Lath., Ind. Orn. i. p. 299. *Dicæum croceiventre*, Vig., Mem. Raffl. p. 673.—The ORANGE-BELLIED FLOWER-PECKER.**

Forehead, crown, nape, sides of the head and of the neck, scapulars and wing coverts glossy leaden blue; lores, sides of the face and ear coverts leaden blue; back bright yellow, inclining to flaming orange yellow on the mantle and upper back; upper tail coverts slaty or leaden blue; tail black, edged narrowly with slaty blue; bastard wing, primary coverts and quills blackish, edged narrowly with slaty blue; chin, throat, cheeks, foreneck and breast pale slaty grey; abdomen, sides of the body, vent and under tail coverts rich or flaming orange; under wing coverts and axillaries white, mottled with greyish on the edge of the wing.

The *female* has the forehead, crown, nape, back, sides of the head and scapulars olive green; the rump and upper tail coverts yellow, deepening into orange on the rump; hind neck dull lead colour; lores and sides of the face dull lead colour washed with olive green; tail blackish edged with narrow olive margins; wing coverts and quills dark brown narrowly edged with olive green; chin and throat sordid green; sides of the body ashy green; abdomen, vent and under tail coverts bright yellow; centre of the breast deepening into orange; axillaries and under wing coverts white. Bill, legs and feet horny black in the male; dark plumbeous in the female; base of upper mandible reddish brown; irides grey to dark brown.

*Length*.—3 to 3·6 inches; wing 1·8 to 1·9; tail 0·9 to 1; tarsus 0·5; bill from gape 0·55.

*Hab.*—The hills N.-E. of Bengal, through Burmah and Tenasserim, down the Malayan Peninsula to Java, Sumatra and Borneo. It has occurred in Arracan. In Burmah it is said to be a rare species. It has been met with in Pegu, Tavoy and Tenasserim, also in the Karen hills by Captain Wardlaw Ramsay.

**753. *Dicæum ignipectus* (Hodgs.), Gray, Gen. B. i. p. 100; Sharpe, Cat. B. Br. Mus. x. 41. *Micrura ignipectus*, Hodgs., Icon. ined. in Br. Mus. Passeres, pl. 36, fig. 393. *Myzanthe ignipectus*, Hodgs., J. A. S. B. xii. p. 983; *Ferd.*, B. Ind. i. p. 377, No. 241; *Bp. Consp. Av.* i. p. 402; *Gould, B. Asia*, ii., pl. 46; *Godwin-Austen, J. A. S. B.* xxxix. p. 98; *Stol.*, J. A. S. B. xxxvii., pt. ii., p. 24; *Hume, Nests and Eggs, Ind. B.* p. 159; *Wald, in Blyth, B. Burm.* p. 143; *David. et. Oust., Ois. Chine*, p. 84; *Hume, and Dav., Str. F.* vi. p. 200; *Hume, Str. F.* viii. p. 90; *Scully, Str. F.* viii. p. 261; *Oates, B. Br. Burm.* i. p. 337.—The FIRE-BREADED FLOWER-PECKER.**

The whole upper plumage glossy steel-green, somewhat metallic; median and greater coverts, also the bastard wing, primary coverts and quills, black, edged externally with steel-green; tail blue black, also edged externally with a steel-green gloss; head, sides of the face, ear coverts and cheeks glossy steel-green, the lores a little darker; throat and under surface of the body deep ochraceous buff, the lower throat and foreneck with a patch of crimson or deep scarlet, and a longitudinal patch of glossy black down the centre of the breast and on the sides of the upper breast, which are glossed with greenish; thighs and under tail coverts ochraceous buff; under wing coverts and axillaries pure white, slightly washed with yellowish buff.

The *female* is olive green above, tinged with ashy on the head, yellower and more olive on the rump and upper tail coverts; lesser and median wing coverts like the back; other coverts and quills dusky glossed with steel-green and externally edged with olive; tail dark brown, tipped with ashy brown on the outer feathers; cheeks and under surface of the body pale ochraceous buff. *No scarlet spot on foreneck.* Bill black, base of lower mandible plumbeous or blackish brown.

*Length*.—3·2 to 3·6 inches; wing 1·75 to 1·9; tail 1; tarsus 0·5 to 0·6; culmen 0·4.

*Hab.*—The Himalayas to the hills of N.-E. Bengal, and externally to the Karenne hills in Burmah at an elevation of 4,000 feet, and Mooleyit in Tenasserim, also occurring in the province of Fokien in China. Recorded from near Simla, Darjeeling, Nepaul and Bhootan. Jerdon says it is common in Sikkim from 2,000 to 6,000 feet, and feeds on small insects and flower buds. Nests pendulous; eggs white, 2—3 in number. According to Mr. R. Thompson (*Hume*), it breeds regularly at Nynee Tal during June and July. It constructs a pendant nest which it attaches to a bare bough of some large tree. In shape the nest is like a purse opening at the side towards its upper extremity, and the materials it is made of is said to be the pubescent covering of the stems of various species of *Loranthus* or mistletoes.

**754. *Dicæum chrysorrhæum*.** *Temm., Pl. Col.* 478, fig. 1; *Strickl., P. Z. S.* 1846, p. 100; *Bp. Consp. Av.* i. p. 403; *Jerd., B. Ind.* i. p. 374, No. 237; *Salvad., Ucc. Born.* p. 168; *Wald., Ibis*, 1872, p. 380; *Blyth and Wald., B. Burm.* p. 142; *Hume and Dav., Str. F.* vi. p. 195; *Hume, Str. F.* viii. p. 90; *Bingham, Str. F.* ix. p. 170; *Oates, B. Br. Burm.* i. p. 335; *Sharpe, Cat. B. Br. Mus.* x. p. 44. —The YELLOW-VENTED FLOWER-PECKER.

The whole upper plumage and lesser wing coverts yellowish olive, brighter on the rump and upper tail coverts; bastard wing and primary coverts, also the quills and tail feathers, blackish brown, edged with yellowish olive; crown of the head, sides of the face, and ear coverts yellowish olive; cheeks white; chin and throat white with a greenish brown mandibular streak between them and the cheeks; under surface of the body creamy white, streaked with greenish brown; under wing coverts and axillaries white; edge of the wing dusky; *under tail coverts golden yellow*. Upper mandible and tip of the lower black; remainder of the lower mandible pale plumbeous; legs dark plumbeous; iris crimson.

*Length*.—3·9 to 4 inches; wing 2·3 to 2·35; tail 1·2; tarsus 0·6; culmen 0·45.

*Hab.*—Eastern Himalayas, thence through Burmah and the Malay Peninsula to Java, Sumatra and Borneo. According to Dr. Jerdon it is found in Nepaul and the hill tracts of Eastern Bengal. In Burmah, Oates says, it is sparingly distributed over the whole province. It is more common in Arracan and Tenasserim.

**755. *Dicæum concolor*,** *Jerd., Madr. Journ.* xi. p. 227; *id., Ill. Ind. Orn.* pl. 39; *Bp. Consp. Av.* i. p. 403; *Reichb., Handbk. Scansoriæ*, p. 241; *Jerd., B. Ind.* i. p. 375, No. 239; *Hume, Nests and Eggs, Ind. B.* p. 156; *Morgan, Ibis*, 1875, p. 316; *Fairbk., Str. F.* 1876, pp. 256, 265; 1877, p. 399; *Hume, Str. F.* 1879, p. 90; *Sharpe, Cat. B. Br. Mus.* x. p. 45. —The NEILGHERRY FLOWER-PECKER.

The whole upper plumage dingy olive brown, rather olivaceous on the upper back; bastard wing and primary coverts uniform dark brown; quills and tail dark brown, narrowly edged with dull olive yellowish. Head dingy olive brown, the feathers centred with dusky; base of forehead, lores and eyelids whitish; ear coverts streaked with narrow shaft lines; centre of breast and abdomen pale olive yellowish, also the under tail coverts; under wing coverts and axillaries white with a faint yellowish tinge. Bill dusky brown; legs slate colour; iris brown.

*Length*.—3·5 to 3·7 inches; wing 1·95 to 2; tail 1·05 to 1·15; culmen 0·45.

*Hab.*—Southern India (Coonor). Jerdon says it is very abundant on the top of the Neilgherries, also in most of the forests of Malabar and in the woods of the eastern ghauts. It frequents the highest branches of lofty trees, hopping actively about the small twigs and flowering branches and feeding on various minute insects; also occasionally on the nectar of flowers and on flower buds. It breeds in the Neilgherries during March, making a beautiful little purse-like nest which is hung from the branch of some shrub. It is loosely woven, exteriorly with fine grass and lined with the silky pappus of some Asteraceous plant. The length of the nest is about 3 inches, and the exterior diameter about 2 inches. Eggs, 2 in number, elongated ovals, pure white and glossless, varying in length from 0·6 to 0·68 inch and in breadth from 0·4 to 0·46 inch.

**756. *Dicæum inornatum* (Hodgs.), Sharpe, P. Z. S. 1883, p. 580; *id.*, Cat. B. Br. Mus. x. p. 45. *Myzanthe inornata*, Hodgs., *Icon. ined. in Br. Mus. Passeres*, pl. 37. *Dicæum olivaceum*, Wald., *Ann. and Mag. Nat. Hist.* (4) xv. p. 401; *id.*, in *Blyth's B. Burm.* p. 143; *Tweed., Ibis*, 1877, p. 302; *Hume and Dav., Str. F.* 1878, p. 195; *Hume, Str. F.* 1879, p. 90; *Bingham, Str. F.* 1880, p. 171; *Oales, B. Br. Burm.* i. p. 333.—THE PLAIN-COLOURED FLOWER-PECKER.**

The whole upper plumage dull olive, brighter on the lower back and rump, and the feathers of the head centred darker; tail dark brown, the feathers faintly edged with olive; wing coverts blackish brown, the feathers edged with dull olive; wings dark brown edged with olive green; lores, sides of the face and cheeks pale ashy olive, also a line of feathers over the eye; upper parts of the ear coverts darker olive brown; under surface of the body greenish yellow, tinged somewhat with ashy olive on the sides and flanks; under tail coverts yellowish white; under wing coverts and axillaries white, slightly washed with yellow. Upper mandible and tip of lower dark brown; rest of lower mandible very dark brown or black; legs dark plumbeous; iris deep brown.

*Length*.—3·1 to 3·3 inches; wing 1·8; tail 1; tarsus 0·45; culmen 0·4.

*Hab.*—From Nepaul and the Eastern Himalayas throughout the Burmese countries down the Malay Peninsula. Recorded from Bhootan, the Tonghoo

and Karin hills and Pahpoun in Tenasserim. Captain Bingham got it at Moulmein, and Captain Wardlaw-Ramsay in Pegu.

A closely-allied race, *D. virescens*, occurs in the Andaman Islands. It differs in having the chin and throat albescent, and the abdomen more yellow, contrasting with the throat.

**757. *Dicæum erythrorhynchum* (Lath.), Blyth and Wald.** *B. Burm.* p. 143; *Fairbk., Str. F.* 1877, p. 399; *Hume and Dav., Str. F.* 1878, 196; *Hume, Str. F.* 1879, p. 90; *Vidal, Str. F.* 1880, p. 57; *Butler, t. c.* p. 390; *Oates, B. Br. Burm. i.* p. 334. *Certhia erythrorhynchos, Lath., Ind. Orn. i.* p. 299. *Dicæum minimum, Blyth, Ann. and Mag. Nat. Hist. xx.* p. 316; *Tyller, op. cit. xiii.* p. 373; *Bp. Consp. Av. i.* p. 374; *Jerd., B. Ind. i.* p. 374, No. 238; *Beavan, Ibis*, 1865, p. 416; *Hume, Nests and Eggs, Ind. B.* p. 155; *Ball, Str. F.* 1878, p. 208; *Legge, B. Ceylon*, p. 574; *Butler, Cat. B. B. Pres.* p. 30.—The SMALL FLOWER-PECKER.

The whole upper plumage ashy olive, the feathers of the crown darker centred; tail dark brown; wings and coverts brown, edged with ashy olive; lores, sides of the head and face pale ashy brown; the ear coverts streaked with narrow whitish shaft lines; under surface of the body pale ashy with a buffish tinge; under tail coverts buffy white; under wing coverts and axillaries white. Bill pale fleshy with a dusky tip; legs plumbeous; iris brown.

*Length.*—3·2 inches; wing 1·8; tail 1; tarsus 0·5; culmen 0·4.

*Hab.*—Ceylon, Lower Bengal and Central and Southern India as far as the Eastern Himalayas and Assam, extending through Arracan to Moulmein in Tenasserim. Recorded from Nepaul, Madras, Belgaum, Dacca, Khandalla in the Deccan, Poona and Bombay. Breeds in the Deccan and the Neilgherries; nesting habits same as those of the other species of the genus. Eggs, 2—3, pure white.

### Gen. *Prionochilus*, *Strickl.*

Bill stout and finch-like, occasionally with tomical serrations, broader than high at nostrils; gape without wattles; tail short, not exceeding the tip of the wing by as much as the length of the tarsus; wing with a distinct bastard primary; nostrils only a narrow slit; tarsus large; inner toe shorter than the outer.

**758. *Prionochilus ignicapillus* (Eyton), Sharpe, P. Z. S.** 1883, p. 580; *id., Cat. B. Br. Mus. x.* p. 65. *Dicæum ignicapillum, Eyton, P. Z. S.* 1839, p. 105. *Prionochilus percussus (non. Temm.), Strickl., P. Z. S.* 1841, p. 29; *Blyth, J. A. S. B. xiv.* pp. 558, 559; *Bp. Consp. Av. i.* p. 335; *Cab. Mus. Hein. Th. i.* p. 112; *Hume, Str. F.* 1879, pp. 56, 90; *Oates, B. Br. Burm. i.* p. 339.—The CRIMSON-BREADED FLOWER-PECKER.

*Adult male.*—Above slaty blue, the rump and upper tail coverts a little clearer blue; wing coverts like the back; bastard wing, primary coverts and

quills dusky blackish, edged externally with slaty blue, lighter on the outer webs of the secondaries; tail feathers blackish, washed on the outer web with slaty blue; head like the back, more dusky on the forehead and lores; a longitudinal patch of scarlet in the centre of the crown; ear coverts and sides of the face slaty blue like the crown; cheeks white, tinged with yellow posteriorly and separated from the throat by a moustachial line of slaty grey skirting the rami of the lower jaw; throat and under surface of the body bright yellow, paler towards the abdomen; a central patch of scarlet vermilion in the centre of the foreneck and chest; sides of upper breast slaty blue; under tail coverts white, also the axillaries and under wing coverts. (Sharpe.) "Bill black, slaty beneath; legs dark leaden; iris reddish brown." (Wardlaw-Ramsay.)

The female is described by Mr. Sharpe as dull olive greenish above, clearer olive on the lower back, rump and upper tail coverts; greater coverts, quills and tail dusky brown, washed externally with a little brighter olive green than the back; centre of crown with a patch of dull orange; lores and eyelids ashy whitish; a small cheek stripe of greyish white, followed by a distinct malar stripe of dull ashy; throat pale yellow, whiter towards the chin; centre of breast and abdomen yellow, with a tinge of orange on the chest.

Length.—3 to 3·5 inches; wing 2 to 2·1; tail 0·95 to 1·2; tarsus 0·55; culmen 0·4 to 0·45.

Hab.—Southern Tenasserim, down the Malay Peninsula to Malacca, Sumatra and Borneo. *P. thoracica*, a species found in the Malay Peninsula, is likely to be found in Tenasserim.

**759. *Prionochilus maculatus* (Tem.), Strickl., P. Z. S. 1841, p. 29; Wald., Ibis, 1872, p. 379; Salvad., Ucc. Born. p. 104; Sharpe, Ibis, 1876, p. 43; Hume and Dav., Str. F. 1878, p. 199; Hume, Str. F. 1879, pp. 59, 90; Oates, B. Br. Burm. i. p. 340; Sharpe, Cat. B. Br. Mus. vol. x. p. 69. *Pardalotus maculatus*, Tem., pl. col. iii. pl. 600, fig. 3. *Prionochilus thoracicus*, ♀, Blyth, Cat. B. Mus. As. Soc. p. 227; Bp., Consp. Av. i. p. 335.—The WHITE-THROATED FLOWER-PECKER.**

*Adult*.—(Type of species.)—General colour above uniform olivaceous, the lesser and median wing coverts like the back; greater coverts and quills dusky brown, edged externally with olive; tail dusky brown, the feathers edged with olive; head like the back, with an orange patch on the centre of the crown, the feathers tipped with tiny olive spots; lores obscure whitish ashy; sides of the face olive like the crown; cheeks dull white, washed with olive behind; a broad moustachial streak of dusky olive continuous with the striping of the rest of the under parts; centre of the throat, breast, abdomen and under tail coverts yellow, paler towards the chin; flanks washed with olive, and having broad longitudinal streaks of dusky olive very distinct on the sides of the foreneck and breast; under wing coverts and axillaries white with a faint wash of

yellow and with a dusky patch near the edge of the wing. (*Sharpe*.) Legs and feet dusky or dark plumbeous in males; dirty smalt blue in females; upper mandible and lower mandible to angle of gonys black; rest plumbeous in males, smalt blue in females; iris dull red (*Davison*), dragon's blood red (*Everett*).

*Length*.—3·5 inches; wing 2·05; tail 1·1; tarsus 0·55; culmen 0·45.

The female has the patch on the crown paler and more orange; iris crimson. (*Everett*.)

*Hab*.—Southern Tenasserim, down the Malay Peninsula to Sumatra and Borneo. According to *Davison*, it is found in Tenasserim from its southernmost point to about Mergui, or a little further north; and he states it is rare.

**760. *Prionochilus melanoxanthus* (*Hodgs.*), *Sclater*, *Ibis*, 1874, p. 3, pl. 1, fig. 3; *Sharpe*, *Cat. B. Br. Mus.* x. p. 71. *Micrura melanoxantha*, *Hodgs.*, *Icon. ined in Br. Mus. Passeres*, pl. 38. *Pachyglossa melanoxantha*, *Hodgs.*, *J. A. S. B.* xii. p. 1009; *Ferd.*, *B. Ind.* i. p. 378, No. 242; *Hume*, *Str. F.* 1874, p. 455; *Godwin-Austen*, *J. A. S. B.* xliii., pt. 2, p. 156; *Hume*, *Str. F.* 1879, p. 90.—THE YELLOW-BELLIED FLOWER-PECKER.**

General color above dark slaty blackish with a slight gloss; least wing coverts like the back; median and greater coverts and quills blackish brown, slightly edged with slate color externally; tail feathers black, the two outermost with a large spot of white near the end of the inner web; lores, sides of the face, ear coverts, cheeks, sides of the neck and of the throat black with a slaty grey gloss which extends down the sides of the breast; throat and foreneck white, forming a longitudinal patch; chest and remainder of under surface of the body, including the flanks and under tail coverts, yellow; axillaries and under wing coverts white. (*Sharpe*.) Bill black; legs dark plumbeous.

The adult female is described by Mr. *Sharpe* as having a very dusky olive green upper surface; the lores dusky, a broad irregular fulvous stripe covering the chin, middle of the throat and breast; abdomen, vent and lower tail coverts dull pale yellow; outer tail feathers tipped white.

*Length*.—3·5 inches; wing 2·55; tail 1·5; tarsus 0·5; bill from forehead 0·43.

*Hab*.—Nepaul and Sikkim. Feeds on small insects and viscid berries. *Prionochilus vincens*, a species at present known only from Ceylon, will probably be found in Southern India; it differs from this species in being smaller (2·1 to 2·3 wing), and the sides of the breast being yellow like the flanks.

**761. *Prionochilus squalidus* (*Burton*), *Sharpe*, *Cat. B. Br. Mus.* x. p. 73. *Pipra squalida*, *Burton*, *P. Z. S.* 1836, p. 113. *Fringilla agilis*, *Tick.*, *J. A. S. B.* ii. p. 578. *Piprisoma agile*, *Blyth*, *J. A. S. B.* xiii. p. 395; *Ferd.*, *B. Ind.* i. p. 376, No. 240; *Hume*, *Nests and Eggs*, *Ind. B.* p. 158; *Beavan*, *Ibis*, 1867, p. 430, pl. x.; *Hume*, *Str. F.* i. p. 434; *id.*, viii. p. 90; *Legge*, *B. Ceylon*, p. 579; *Scully*, *Str. F.* viii. p. 260; *Oates*, *Str. F.* x. p. 198; *id.*, *B. Br. Burm.* i. p. 338.—THE THICK-BELLIED FLOWER-PECKER.**



Whole upper plumage and lesser wing coverts ashy brown with a slight olive tinge on the rump and upper tail coverts; quills brown, externally edged with olive; median and greater series of coverts the same; tail blackish, edged with green on the outer webs of the feathers and a bar of white on the two outermost; sides of face and ear coverts ashy brown; cheeks and under surface of the body greyish white with a faint tinge of yellowish; foreneck and breast with indistinct dusky stripes; chin and throat yellowish white; an indistinct or obscure line runs down either side of the throat from the base of the lower mandible to the breast; sides of the body, flanks and thighs washed with ashy brown; under tail coverts white; under wing coverts and axillaries white. Bill plumbeous, blackish at tip; iris orange yellow; legs dark plumbeous.

*Length*.—3·6 to 4 inches; wing 2·3 to 2·4; tail 1·25 to 1·3; tarsus 0·6; culmen 0·35.

*Hab.*—Ceylon, and the whole of India, except the drier parts up to the Himalayas, occurring in the N.-W. portion of the range, and in Nepaul extending to Tenasserim. Jerdon found it on the Malabar Coast and Ceylon, most commonly in jungly districts. He procured it at Goomsoor, on the Eastern Ghauts and in the Deccan. Blyth got it in the Midnapoor jungles, while in Pegu and Tenasserim and the hill tracts of Bengal it is said to be common. It has been recorded from Darjeeling, the N.-W. Himalayas, Maunbhoom, Madras, Jhansi (Bundelkund), Bangalore, Mirzapore and Ramnuggur.

It breeds from the middle of February to the end of May, according to the locality, making a nest of various materials, but small in shape and size; a full-bottomed purse-like bag, which is hung from a small twig, and has the aperture near to the top. The number of eggs is 2—3, varying in size and shape, elongated ovals, white in colour, and marked with reddish brown.

**762. *Prionochilus modestus*, Hume, *Str. F.* 1875, p. 298; *id. and Dav.*, *Str. F.* 1878, p. 200; Hume, *Str. F.* 1879, pp. 56, 90; Bingham, *Str. F.* ix. p. 171; Hume, *Str. F.* x. p. 198, note; Oates, *B. Br. Burm.* i. p. 340; Sharpe, *Cat. B. Br. Mus.* x. p. 74.—HUME'S FLOWER-PECKER.**

Whole upper plumage dark olive green, in some lighter or brighter, clearer on the lower back, rump and upper tail coverts; head like the back; sides of face and ear coverts pale greenish olive; the lores more ashy, also the sides of the neck; cheeks ashy white; a narrow ill-defined stripe of olivaceous grey runs down either side of the throat from the base of the lower mandible; throat and under surface of the body white, washed with ashy on the foreneck and breast, which are streaked with ashy brown; sides of the body and flanks pale ashy brown, washed with olive; wing coverts like the

back; bastard wing, primary coverts and quills dusky brown, edged with olive; tail blackish brown, edged with olive; the four outer tail feathers white at the tip of the inner web; under tail coverts white, washed with yellow, and with dusky centres to the feathers. Bill plumbeous, blackish at tip; iris orange yellow; legs dark plumbeous.

*Length*.—3·9 to 4 inches; wing 2·3 to 2·35; tail 1·25; tarsus 0·45. The female is similar in colour, but slightly smaller.

*Hab*.—Pegu and Tenasserim; found also in the Thoungyeen Valley. According to Oates, it extends down the Malay Peninsula as far as Copah.

### Family—HIRUNDINIDÆ.

Broad-billed Passeres, with nine primaries. Bill short, depressed, compressed at the tip, more or less curved; gape very wide; wings long and pointed; tarsi short; feet feeble.

### Sub-Family—HIRUNDININÆ or SWALLOWS.

Bill short, flat, nearly triangular, compressed at the tips with a slight emargination; gape large; rictal bristles wanting; two first quills generally equal; tail various, even, slightly emarginate or deeply forked; tarsus and toes feathered in some, plumage dense and soft, and always glossy. Nests usually made of mud, or intermixed with hair, feathers, grass, &c., and against rocks, walls, or under roofs of buildings, culverts, bridges, &c.

### Gen. *Chelidon*.—*Boie*.

Bill shorter than in *Hirundo*; 1st quill longest, *tarsi and toes feathered*; tail slightly forked.

**763. *Chelidon urbica* (Linn.),** *Boie, Isis*, 1822, p. 550; *Bp., Consp. Av.* i. p. 343; *Ferd., B. Ind.* i. p. 166, No. 92; *Hume, Str. F.* 1873, p. 323; *Blanf., East. Pers.* ii. p. 216; *Hume, Str. F.* 1879, p. 84; *Butler, Cat. B. Bombay Pres.* p. 15. *Hirundo urbica*, *Linn., Syst. Nat.* i. p. 344; *Tem. Man. d'Orn.* i. p. 428; *McGill, Br. B.* iii. p. 573; *Seeböhm, Br. B.* iii. p. 178.—The ENGLISH HOUSE MARTIN.

Above glossy blue black; wing coverts blackish brown or dull black, the lesser series slightly glossed with purple, and the median and greater series with a steely gloss; lower back and rump white with narrow dusky shaft lines; upper tail coverts steel blue; tail blackish brown, with a slight steel gloss to the centre feathers; head blue black; lores, feathers round the eye and ear coverts black; cheeks and entire under surface of the body pure white, also the thighs; sides of the body, flanks, under wing coverts and axillaries smoky brown; under tail coverts white, washed with dingy. Bill and feet black; iris dark brown.

*Length*.—5·5 inches; wing 4·25; tail 2·5; tarsus 0·45; culmen 0·35.

*Hab*.—Europe, S.-E. and Central Africa, Turkestan, Persia and N.-W. India, also in the Neilgherries. Breeds in Europe, building a globular nest of mud.

**764. *Chelidon Cashmiriensis*, Gould, P. Z. S. 1858, p. 356; Adams. t. c. p. 494; Jerd. B. Ind. i. p. 167; Swinh., Ibis, 1863, p. 90; Hume, Nests and Eggs, Ind. B. p. 152; Dresser, B. Eur. iii. p. 498; Brooks, Str. F. 1875, p. 231; Hume, Str. F. 1879, p. 84. *Hirundo Cashmiriensis*, Seebohm, Hist. Br. B. iii. p. 179.—The CASHMERE HOUSE MARTIN.**

Above deep black with steel blue reflections; crown of the head the same; rump white, tinged with smoky brown and with faint dusky shaft lines, innermost secondaries narrowly tipped with white; upper tail coverts smoky white with dusky shaft lines, the long ones dull blue black; tail blackish, also the lores; ear coverts and cheeks white, the upper edge of the former dusky blackish; under surface of the body dull whitish; throat, foreneck and chest white, washed with smoky brown; under tail coverts white, with smoky bases and dusky shaft streaks; under wing coverts and axillaries darker smoky brown; legs fleshy white; iris brown.

*Length*.—5 inches; wing 4; tail 2·2; tarsus 0·5; culmen 0·3.

*Hab*.—Probably (Sharpe) confined to the Himalayas during summer, descending to the valleys and plains of India in winter. Jerdon records it from Darjeeling. Hume says it breeds only in the interior of the Himalayas, and lays in April and May, but it is said to have a second brood during the rains. The nest is made of mud, and is shallow and cup-shaped with a largish aperture, very close one above the other. They build against the roof of houses.

**765. *Chelidon lagopus* (Pallas), Sharpe, Cat. B. Br. Mus. x. p. 93. *Chelidon lagopoda*, Swinh., Ibis, 1863, p. 91; David and Oust., Ois. Chine, p. 130; Seebohm, Ibis, 1879, p. 17; Oates, B. Br. Burm. i. p. 311. *Hirundo lagopoda*, Pall., Zoogr. Ross-Asiat. i. p. 532; Seebohm, Hist. Br. B. iii. p. 179. *Chelidon urbica* (non L.), Tickell, J. A. S. Bengal, xxiv. p. 227; Blyth, B. Burm. p. 127; Hume and Dav., Str. F. 1878, p. 45; Hume, Str. F. 1879, p. 84 (pt.).—The SIBERIAN HOUSE MARTIN.**

Forehead, crown, nape, back, scapulars and lesser wing coverts glossy steel black; rump and upper tail coverts white, washed with smoky brown and dark shafted; tail, wings and greater coverts brown; lores, feathers under the eye and above the ear coverts dull black; cheeks, lower ear coverts and all the under surface white, the throat tinged with reddish buff; the sides and flanks pale smoky brown; under wing coverts and axillaries dark smoky brown; the outermost small coverts tipped with white.

*Length*.—4·6 to 4·8 inches; wing 4·5; tail 2·05 to 2·3; tarsus 0·45; culmen 0·3.

*Hab*.—Siberia, from the valley of the Yen-e-say eastwards, breeding throughout S.-E. Siberia and Northern China, occurring also in Turkestan. It probably winters in the Burmese countries and Southern China.

**766. *Chelidon nipalensis* (Hodgs.), *Jerd., B. Ind.* i. p. 168, No. 94; *Dresser, B. Eur.* iii. p. 499. *Delichon nipalensis*, *Hodgs., Icon. ined. Br. Mus. App.* pl. xiv.; *Moore, P.Z.S.* 1854, p. 104, pt. lxxiii.; *Gould, B. Asia*, i. pl. 31; *Hume, Str. F.* 1879, p. 84. *Hirundo nipalensis*, *Seebohm, Hist. Br. B.* iii. p. 179.—THE LITTLE HIMALAYAN MARTIN.**

Above, including the wing coverts, glossy blue black; some of the white bases of the feathers as of the preceding species showing through on the hind neck; primary coverts and quills black, edged with glossy blue black; rump white, the lower feathers barred with black tips; upper tail coverts glossy blue black, the basal ones white, and barred at the tip with glossy blue black; tail black with steel blue reflections; lores, feathers round the eye and chin glossy black; cheeks, ear coverts, sides of upper breast, under tail coverts and throat glossy blue black; rest of under surface of the body from the lower throat downwards white, slightly mottled with dark bases on the former; thighs and tarsal plumes white; flanks washed with smoky brown; under wing coverts and axillaries black, glossed with blue black.

*Length.*—4·1 to 4·3 inches; wing 3·7 to 3·75; tail 1·75; tarsus 0·35 to 0·4.

*Hab.*—Eastern Himalayas; recorded from Nepaul, Sikkim and Nynsee Tal. Jerdon says he procured it at Darjeeling at about 4,500 feet of elevation in the valley of the Rungnoo near the mineral springs, where, he adds he found it flying over the jungles in large flocks towards the close of the rains and during the cold weather.

#### Gen. *Cotile*.—*Boie*.

Bill smaller than in *Hirundo*, weak, depressed, broad at the base, and barely hooked at the tip; nostrils with an overhanging superior membrane, the nasal aperture being longitudinal; wing long, 1st primary generally the longest and longer than the tail, which is even and without any indentation or fork on the inner web of the outer tail feathers; tarsus slightly longer than in *Chelidon*; toes smaller and weaker; some species with a small tuft of feathers above the hind toe.

**767. *Cotile riparia* (Linn.), *Boie, Isis*, 1822, p. 550; *Selby, Br. B.* p. 125; *Hume, Str. F.* 1880, p. 246; *Oates, Str. F.* x. p. 184; *Dresser, B. Eur.* iii. p. 505; *Oates, B. Br. Burm.* i. p. 310. *Hirundo riparia*, *Linn., Syst. Nat.* i. p. 344; *Pall., Zoogr. Rosso-Asiat.* i. p. 535; *Wilson, Amer. Orn.* v. p. 46; *Gould, B. Eur.* ii. pl. 58; *Seebohm, Ibis*, 1882, p. 372; *id., Hist. Brit. B.* iii. p. 184. *Cotyle riparia*, *Boie, Isis*, 1826, p. 971; *Bp., Consp. Av.* i. p. 342; *Jerd., B. Ind.* i. p. 163, No. 87; *Hume, Str. F.* 1873, p. 164; *Butler, Str. F.* 1875, p. 452; *Hume, Str. F.* 1875, p. 452; *Blanf., East. Pers.* iii. p. 216; *Butler, Str. F.* 1877, pp. 217, 227; *Hume and Davison, Str. F.* 1878/9 pp. 44, 497; *Hume, Str. F.* 1879, p. 84; *Bingham, t. c.* p. 192; *Butler, Cat. B. Sind, &c.*, p. 13; *Murray, Vert. Zool. Sind*, p. 103.—THE EUROPEAN SAND MARTIN.**

The whole upper plumage, tail, sides of the head and neck and a broad pectoral band greyish brown, the feathers of the rump and tail narrowly margined paler; wings and coverts dark brown; chin, throat, abdomen and vent, also the under tail coverts, white; tarsus feathered above the hind toe. Bill black; iris brown; legs dark brown.

*Length*.—5 inches; wing 4; tail 2.3, forked to the extent of 0.4; tarsus 0.45; culmen 0.3.

*Hab.*—The whole of the northern parts of the Old World in summer, extending in winter to S.-E. Africa, greater part of India and the Burmese countries; also N. America, ranging as far south as Brazil in winter. (*Sharpe*.) The recorded localities in India are Sind, Kutch and the Punjab; outside of India, Beloochistan (Quetta) and Afghanistan. *Sharpe* records Madras (S. India), Pegu, British Burmah; and *Oates* says it is a somewhat rare visitor there as well as in Tenasserim, and that it probably occurs in Arracan. *Davison* found it on the Sittang and Salween rivers in January and February. It has a very wide range. The birds which are found in Southern Asia appear to migrate into South China and Siberia. *Pere David* states that it breeds in this latter country, and *Mr. Swinhoe* observes that it is found near Peking in summer. According to *Seeböhm (Oates)*, it arrived on the Arctic Circle in June, but he did not see it further north than lat. 67°. Both on the banks of the Yen-e-say and the Ob, large colonies of these birds were frequent. It nests in the banks of the rivers.

The young are distinguished by being lighter brown than the adult, and by the wings and feathers of the back having a rufescent edge; the breast band, too, is more strongly pronounced.

**768. *Cotile sinensis* (J. E. Gray), *Jerd., Madr. Journ.* xi. p. 238; *Blyth, J. A. S. B.* xvi. p. 119. *Hirundo chinensis*, J. E. Gray in *Hardw. Illustr. Ind. Zool.* i. pl. 35, fig. 3. *Cotile sinensis*, Gray, *Cat. Fissir. Brit. Mus.* p. 30; *Bp. Consp. Av.* i. p. 342; *Jerd. B. Ind.* i. p. 164, No. 89; *Adam, Str. F.* 1873, p. 370; *Hume, Str. F.* 1874, p. 469; 1875, p. 452; *Blyth and Wald., B. Burm.* p. 127; *Fairb., Str. F.* 1876, p. 254; *Butler, Str. F.* 1877, p. 227; *Hume, and Dav., Str. F.* 1878, p. 45; *Davids and Wend., Str. F.* 1878, ii. p. 76; *Ball, t. c.* p. 402; *Cripps, t. c.* p. 257; *Hume, Str. F.* 1879, p. 84; *Scully, t. c.* p. 234; *Doig, t. c.* p. 370; *Butler, Cat. B. Sind, &c.*, p. 13; *Murray, Vert. Zool., Sind*, p. 103; *Sharpe, Cat. B. Br. Mus.* x. p. 105. *Cotile subsoccata* (*Hpdgs.*), *Adams, P. Z. S.* 1858, p. 495; *Jerd., B. Ind.* i. p. 163, No. 88. *Cotile sinensis*, Gray, *Hand-l. B.* i. p. 173; *Hume, Nests and Eggs, Ind. B.* p. 82; *id., Str. F.* 1873, p. 164; *Oates, B. Br. Burm.* i. p. 309. *Cotile subsoccata*, *Hume, Nests and Eggs, Ind. B.* p. 82.—THE INDIAN BANK MARTIN.**

*Adult*.—Above dusky greyish brown, darker on the crown; throat and breast pale grey; wings and tail dusky brown; belly and lower tail coverts white; upper tail coverts albescent; tarsus with a small tuft.

*Length*.—4·25 inches ; wing 3·5 ; tail 1·7.

*Hab.*—India generally ; rare in the south, numerous in Sind, Punjab, N.-W. Provinces, Bengal and Nepaul ; also in Kutch, Kattiawar, Jodhpore, North Guzerat, the Deccan and Concan. It is recorded from N. Pegu and the Indo-Burmese countries to China. In Sind it is a resident, and breeds at Buggatora and upwards towards and beyond Sehwan, in holes in the river banks, about January.

**789. Cotile concolor** (Sykes), *Gray, Hand-l. B.* i. 73 ; *Hume, Nests and Eggs, Ind. B.* p. 83 ; *Aiiken, Str. F.* 1875, p. 214 ; *Butler, t. c.* p. 453 ; *Hume, t. c.* p. 453 ; *id.*, *Str. F.* 1876, p. 35. *Hirundo concolor*, *Sykes, P. Z. S.* 1832, p. 83 ; *Ferd., Madr. Journ.* xi. p. 238 ; *Gray, Gen. B.* i. p. 58 ; *Blyth, J. A. S. B.* xvi. p. 119. *Cotyle concolor*, *Boie, Isis*, 1844, p. 170, *Bp., Consp. Av.* i. p. 342 ; *Ferd. B. Ind.* i. p. 165, No. 90 ; *Blanf., Ibis*, 1867, p. 403 ; *Butler, Str. F.* 1877, p. 277. *Ptyonoprogne concolor*, *Adams, Str. F.* 1873, p. 370 ; *Fairbk., Str. F.* 1876, p. 254 ; *Dauids and Wenden, Str. F.* 1878, vol. ii., p. 77 ; *Hume, Str. F.* 1879, p. 84 ; *Butler, Cat. B. Sind, &c.*, p. 13.—The DUSKY CRAG MARTIN.

Above uniform dark sooty brown ; wing coverts like the back ; bastard wing, primary coverts and quills dark brown, externally washed with the same brown as the back ; tail feathers dark brown with a white spot on the inner web of all but the two centre feathers and the outer web on each side ; head like the back ; lores, sides of the face, ear coverts and cheeks uniform dark brown with a few fulvous streaks only on the cheeks ; throat and cheeks dull rufescent, streaked with dusky brown mesially ; breast, abdomen, flanks and under tail coverts uniform dark sooty brown, with a few of the feathers of the abdomen paler edged ; axillaries and under wing coverts dark brown with rufous edges. (*Sharpe*.)

*Length*.—4·8 inches ; wing 4·05 ; tail 1·85 ; tarsus 0·35 ; culmen 0·35.

Mr. Sharpe's observations in regard to this species are that the specimens in the British Museum Collection from the N.-W. Himalayas appear to him to belong to a lighter form than typical *C. concolor* from Southern India, and to have the rufescent shade extended more over the breast. There are also specimens which show a faint trace of a spot on the outer tail feather as well as on the centre ones.

*Hab.*—Southern India, and the greater part of the Indian Peninsula, except Lower Bengal, extending into Kutch and Kattiawar, and occurring on Mount Abu. According to Jerdon it is rare on the Malabar Coast. He procured it at Vellore and Seringapatam, where it breeds on the large fort walls, also on rocky hills throughout the Carnatic and in Central India. It also extends to the N.-W. Provinces, where it has been obtained at Delhi, and also at Allahabad. In the Deccan it builds in the eaves of lofty houses, and on rocks in the Neilgherries, from February to April and May. The nests

are made of clay and of a cup-shape, and are lined with feathers and soft flowering grasses. The number of eggs are 3—4, white, with minute dark spots all over them, but particularly at the larger end. In length they vary from 0·68 to 0·75 inch, and in breadth from 0·5 to 0·56 inch.

**770. *Cotile rupestris* (Scop.), Gray, *Hand-l. B.* i. p. 73; *Buller, Str. F.* 1875, p. 453; *Wardlaw-Ramsay, Ibis*, 1880, p. 48; *Biddulph, Ibis*, 1881, p. 47; *Dixon, Str. F.* 1882, p. 561; *Seebohm, Ibis*, 1883, p. 22. *Hirundo rupestris*, Scop., *Ann.* i. p. 167. *Cotyle rupestris*, Boie, *Isis*, 1826, p. 971; *Bp., Consp. Av.* i. p. 341; *Cab., Mus. Hein. Th.* i. p. 50; *Tristram, Ibis*, 1859, p. 434; *Jerd., B. Ind.* i. p. 166, No. 91; *Blanf., Geol. Zool. Abyssinia*, p. 350; *Brooke, Ibis*, 1873, p. 237; *Hume and Hend., Lahore to Yark.* p. 84; *Dresser, B. Eur.* iii. p. 513, pl. 164; *Dresser, Ibis*, 1876, p. 162; *Butler, Str. F.* 1877, p. 227; *Scully, Str. F.* 1879, p. 234; *Blanf., E. Pers.* ii. p. 216. *Ptyonoprogne rupestris*, *Reichenb., Syst. Av.* pl. lxxxvii., fig. 6; *Hume, Nests and Eggs, Ind. B.* p. 84; *id., Str. F.* 1876, p. 131; *Fairb., t. c.* p. 254; *Butler, Cat. B. Sind, &c.*, p. 13.—THE MOUNTAIN CRAG MARTIN.**

Above light ashy brown, a little darker on the head; rump and upper tail coverts decidedly lighter; wing coverts and quills dark brown, also the tail feathers, all of which, except the two centre ones and the outermost on each side have a large oval white spot on their inner web; lores, cheeks and ear coverts dull brown; abdomen rufous ashy; under tail coverts, flanks and vent smoky brown like the under wing coverts and axillaries, which have faint rufous margins. Bill black; legs and feet fleshy; iris dark brown.

*Length*.—4·8 to 5·2 inches; wing 4·9 to 5·75, exceeding the tail by 1 inch; tail 2·2 to 2·4; tarsus 0·4; culmen 0·4.

*Hab.*—Southern Europe, and countries bordering the Mediterranean. Mountains of N.-E. Africa and Palestine, ranging to the Caucasus and Central Asia, the Himalayas and Neilgherries; occurring also on the mountains of Mongolia and North China. Indian recorded localities are N.-W. India, Madras, Neilgherries and Darjeeling. Nepal and Bhootan are also given as places where it occurs. Jerdon says he saw it occasionally in large flocks, and at other times in small parties at Darjeeling and on the Neilgherries, and adds that the number he saw in October at Darjeeling seemed to be birds of passage. In Nepal, according to Hodgson, they are found throughout the year.

**771. *Cotile obsoleta*, Cab., *Mus. Hein. Th.* i. p. 50; *Heugl., B. N. O. Afr.* i. p. 163; *Sharpe, P. Z. S.* 1870, p. 301; *Blanf., Ibis*, 1875, p. 214; *Murray, Vert. Zool. Sind*, p. 104; *Sharpe, Cat. B. Br. Mus.* x. p. 111. *Ptyonoprogne pallida*, *Hume, Str. F.* 1873, pp. 1, 417; *Blanf., Ibis*, 1873, p. 214. *Cotyle obsoleta*, *Blanf., East Pers.* ii. p. 217. *Ptyonoprogne obsoleta*, *Hume, Str. F.* 1879, p. 84; *Butler, Cat. B. Sind.* p. 13.—THE PALE CRAG MARTIN.**

The whole upper surface a very pale greyish earthy brown, very much paler than the same parts in either *P. rupestris* or *Cotyle sinensis*, the quills only slightly darker, yet sufficiently so to contrast pretty markedly with the scapulars, back, rump and upper tail coverts; the lateral tail feathers and all but the external feather on each side with a large oval white spot on the inner web, as in *rupestris*, and with dark shafts, and a darker tint on the web, near the shaft, as in that latter species. Lower surface as in *rupestris*, but much paler, the whole of the chin, throat, breast and abdomen being white, with only a faint fulvous or rufous tinge; wing lining and lower tail coverts the same pale earthy grey brown as the upper surface. Bill black; legs and feet horny brown; irides dark brown. (*Hume, S. F.* vol. 1, p. 417.)

*Male, length*—5·35 to 6 inches; *expanse* 12·25 to 13; *wing* 4·4 to 4·7.

*Female, length*—5·25 to 5·5; *expanse* 12·3; *wing* 4·5 to 4·75; *tail* from vent 1·8 to 2; *tarsus* 0·4.

*Hab.*—N.-E. Africa; found also in Beloochistan, Kutch and N. Guzerat. In Sind it is less common than the preceding species, and generally affects hilly situations; arrives during winter.

#### Gen. *Hirundo*, Linn.—TRUE SWALLOWS.

Bill broad at the base, triangular and compressed at the tip; wings long; tail long, furcate or subfurcate, the outer feathers on each side emarginate on the inner web, and generally elongated to a great extent; nostrils lateral, with a distinct superior membrane; tarsus moderate, nude; feet moderate.

**772. *Hirundo rustica*** Linn., *Syst. Nat.* i. p. 343; *Gould, B. Eur.* ii. pl. 54; *Yarrell, Br. B.* ii. p. 213; *Hodgs., Icon. ined Br. Mus. Passeres*, pl. 8; *Bp., Consp. Av.* i. p. 338; *Jerd., B. Ind.* i. p. 157, No. 82; *Godwin-Austen, J. A. S. B.* xxxix. p. 94; *Hume, Nests and Eggs*, p. 72; *id., Str. F.* 1874, p. 155; *Dresser, B. Eur.* iii. p. 477; *Hume, Str. F.* 1875, p. 451 (pt.); *Blanf., East. Pers.* ii. p. 215; *Legge, B. Ceylon*, p. 587; *Hume, Str. F.* 1879, p. 84; *Vidal, Str. F.* 1880, p. 43; *Reid, Str. F.* 1881, p. 16; *Davidson, Str. F.* 1882, p. 292; *id., Str. F.* 1883, p. 346; *Seebohm, Hist. Br. B.* ii. 171; *Murray, Vert. Zool. Sind*, p. 102.—THE COMMON SWALLOW.

Before giving a description of this species it is due to Ornithologists who have not access to the works issued by the British Museum, to transcribe here Mr. Sharpe's observations in regard to "*Hirundo rustica and its allies*," and every working Ornithologist will agree with him, that "the races of Chimney Swallows are by no means easy to decipher," notwithstanding that they have been the subject of much discussion." He recognizes only five species. "Mr. Dresser," he says in his "*Birds of Europe*," does not distinguish the Eastern Chimney Swallow (*H. gutturalis*) from *H. rustica*, and says that the latter merges gradually into *H. erythrogastra*, as it proceeds eastwards. This certainly was my belief, but Mr. Sharpe thinks otherwise, and has given



the latter sub-specific rank. He goes on, "I say nothing about the *probability of hybridization*\* taking place between the various forms of *H. rustica*, for at present we have no positive evidence of such being the case, but I would draw attention to the fact that although, in my opinion, *H. Savignii* does not occur in Palestine, the examples of *H. rustica* from that country are permanently more rufous than those from any part of Europe." How is this to be accounted for? According to Mr. Sharpe—and it is possible too—"it may be due to a strain of *H. Savignii* from adjoining localities. They are, however, always to be distinguished even from young *H. Savignii*, and are to be matched by specimens from different parts of Europe." The same difficulties attend the determination of the swallows which winter in Burmah, where many specimens occur which are puzzling to the Naturalist. They may be hybrids between the various races of *H. rustica*; and nothing but continued study by field naturalists can solve these points in question. It seems to me that a case of hybridization between *H. rustica* and *H. tylleri* would result in offspring very difficult to distinguish from *H. erythrogastra*. More recently Mr. Seebohm has reviewed the question. He recognizes five races. *H. rustica*, according to this author, has a wide summer range in Europe, extending to the valley of the Yen-e-say, but it is said to winter in "Sind and West India." \*Mr. Sharpe continues, and adds his experience "that it shares to a great extent the winter quarters of the Eastern Chimney Swallow, called by Mr. Seebohm *H. rustica* var. *gutturalis*, and that it is quite possible it accompanies the latter occasionally back to its summer home. There are many places where both races occur together in winter; and the Burmese countries appear to be the winter residence of at least four of the Chimney Swallows—*H. rustica*, *H. gutturalis*, *H. erythrogastra* and *H. tylleri*. Speaking of *H. rustica* var. *horreorum*, Mr. Seebohm says that it winters in Burmah, "where it has been re-named *H. tylleri*." This is not strictly correct, for although specimens from Lake Baical are identical with the North-American bird, and undoubted examples are in the British Museum from Burmah; yet, they cannot be said to be identical with *H. tylleri*, which is a distinct race leading on to *H. Savignii*, which it resembles in its deep chestnut under surface, while it retains the broken breast band of the *H. gutturalis* and *H. horreorum* type."

*Male*.—Forehead light chestnut; body and wings glossy steel blue; primaries and secondaries black; tail feathers black, with a large white spot on the inner webs of all except the mesial ones; throat chestnut; a dark blue band across the upper part of the chest; rest of under parts white or rufescent white. Bill, legs, and feet black.

*Length*.—To end of outer tail feathers 7·5 inches, of which the tail is 4·5; middle tail feathers 2 inches; wing 4·8. The female is distinguished by the

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\* The italics are mine.

smaller chestnut patch on the forehead, less intense tints, whiter under parts, and the narrowness of the band across the chest.

*Hab.*—Europe, Palestine, Africa, Natal, Malacca, Penang, Tenasserim, Burmah, Sumatra, Borneo, China and Celebes; also Persia, Beloochistan, Afghanistan, Eastern Turkestan, Nepaul and the whole Continent of India and Ceylon. Other recorded localities are Behar, Darjeeling, Quilon in Travancore, Nicobar Islands, Assam and Pegu. In Sind, as in other parts of India, it is a winter visitant. Said to breed in Persia at heights from about 4,000 to 8,000 feet in the months of April and May. Hume says they also breed along the whole line of the Himalayas from Cabul to Assam. The nests are made of pellets of clay mingled with fur, straw, &c. The eggs are 3—4 in number, thickly spotted with brownish red and inky purple. In size the eggs vary from 0·7 to 0·84 inch in length and from 0·5 to 0·55 in breadth.

**773. *Hirundo gutturalis*, Scop., Del. Flor. et Faun. Insubr. ii. p. 96; Temm. Man. d'Orn. i. p. 427; Blyth, J. A. S. B. xvi. p. 117; Cab., Mus. Hein. Th. i. p. 46; Ferd., B. Ind. i. p. 157 (pt.); Hume, Ibis, 1876, p. 286; and 1877, p. 17; Tweed., P. Z. S. 1877, pp. 545, 694; Hume and Davison, Str. F. 1878, p. 41; Cripps, Str. F. 1878, ii. p. 256; Bingham, Str. F. 1880, p. 48; Hume, i. c. p. 245; Sharpe, Cat. B. Br. Mus. x. p. 135. *Hirundo panayana*, Gm., Syst. Nat. i. p. 1018. *Hirundo jewan*, Sykes, P. Z. S. 1832, p. 83. *Hirundo rustica* (non. Linn.), Meyen., Nova. Acta, Acad. Cæs. Scop. Car. Nat. Cur. Suppl. taf. 10, fig. 1. *Hirundo javanica*, (non. Sparrm.), Bp. Consp. i. p. 338; Hayes Lloyd, Ibis, 1873, p. 405. *Hirundo Andamanensis*, Tytler and Beau., Ibis, 1867, p. 316; Hume, Str. F. 1874, p. 155. *Hirundo rustica*, var. *gutturalis*, Seebohm, Hist. Br. B. ii. p. 171.—The PANAYAN SWALLOW.**

Above glossy purplish blue, the white bases of the feathers of the mantle showing through; forehead, chin and throat deep ferruginous; lores blackish; ear coverts purplish blue; sides of the foreneck purplish blue, the collar not complete but slightly broken with a few blue spots on the feathers; wing coverts like the back; bastard wing, primary coverts and quills blackish, washed externally with glossy blue; tail washed with blue; all but the centre feathers with a large oval white spot on the inner web, becoming an oblique patch on the outermost feathers; under surface from the chest downwards white, including the thighs and under tail coverts; the flanks with a very faint tinge of smoky brown; axillaries and under wing coverts pale smoky brown. (*Sharpe*.) Bill black; feet brown; iris black. (*David*.) The adult female is similar in colour.

*Length.*—6·2 to 6·8 inches; wing 4·7; tail 3; tarsus 0·45.

*Hab.*—N.-E. Asia, S. China, the Burmese countries and the Malayan Peninsula, straying into India more rarely. It is recorded from N.-W. India,

Rajkote (Kattiawar), Central India (Mhow and Kamptee), the Deccan, South India, Assam, Bhootan, Bhamo, Pegu and Tenasserim.

**774. *Hirundo erythrogastra*, Bodd., *Tabl. Pl. Enl.* p. 45; *Sharpe, Cat. B. Br. Mus.* x. p. 137. *Hirundo rufa*, Gm., *Syst. Nat.* i. p. 1018; *Bp., Consp. Av.* i. p. 339; *Cab., Mus. Hein. Th.* i. p. 46. *Hirundo horreorum*, Bartr., *Fragm. Nat. Hist.* p. 17; *Wald. in Bl. B. Burm.* p. 127; *Hume and Dav., Str. F.* vi. p. 42; *id.*, viii. p. 84; *Oates, B. Br. Burm.* i. p. 303. *Hirundo erythrogastra*, Gray, *Gen. B.* i. p. 57. *Hirundo rustica*, var. *horreorum*, Seebohm, *Hist. Br. B.* ii. p. 171.—THE AMERICAN BARN SWALLOW.**

General colour above glossy purplish blue, varied with white on the mantle and back, where the white bases to the feathers show through; lesser and median wing coverts like the back; greater coverts, bastard wing, primary coverts and quills blackish with a purplish gloss on the outer web, inclining more to steel-green on the outer webs of the bastard wing and primary coverts; the innermost greater coverts ashy on their inner webs with a strong rufous tinge; tail feathers blackish with a steel-green gloss, all but the centre ones with a large rounded spot, increasing in size towards the outermost, where it is a large oblique mark; forehead deep bay or chestnut, extending slightly blackwards over the eye; lores black; ear coverts purplish blue like the head; cheeks and entire throat deep bay, of a different colour from the rest of the under surface, but not separated from the chest by a complete band; sides of the neck glossy purplish blue like the back, this colour impinging on to the sides of the foreneck in a half crescent shape but not forming a band across; under surface from the chest downwards, including the under wing coverts and axillaries, clear rufous deepening into chestnut in the region of the vent; under tail coverts with blackish shaft lines. (*Sharpe*.) The adult female is similar to the male in colour.

*Length*.—6·7 to 6·8 inches; wing 4·3 to 4·55; tail 3·25 to 3·45; tarsus 0·4; culmen 0·35.

*Hab.*—The whole of North America, reaching to Alaska and Greenland, extending across to Lake Baikal and wintering in Burmah; also ranging through the whole of Central America and the Antilles, reaching in winter as far as Southern Brazil. (*Sharpe*.) Pegu and Tonghoo are given as localities of the occurrence of this species.

**775. *Hirundo Tytleri*, *Ferd., B. Ind.* iii. *App.* p. 870 (1864); *Blyth, Ibis*, 1866, p. 336; *Hume, Str. F.* 1875, p. 41; *Wald. in Blyth's B. Burm.* p. 127; *Wardlaw-Ramsay, Ibis*, 1877, p. 466; *Hume and Dav., Str. F.* 1878, p. 41; *Hume, Str. F.* 1879, p. 84; *Simson, Ibis*, 1882, p. 84; *Godwin-Austen, t. c. p.* 345; *Oates, B. Br. Burm.* i. p. 304; *Seebohm, Hist. Br. B.* ii. p. 171.—TYTLER'S SWALLOW.**

Adult male described by Mr. Sharpe is from Irkutsh. The general colour above is glossy purplish blue, the mantle and scapulars streaked with reddish white, where the bases of the feathers show through; remainder of the plumage as in *H. rustica*, but with the under parts very dark ferruginous, nearly as dark as the throat; the collar across the throat is very narrow and indistinct.

*Length*.—6·9 to 7·3 inches; wing 5·05; tail 0·4; tarsus 0·5.

*Hab.*—E. Siberia and Kamtschatka, wintering in Burmah, where Oates says it occurs in considerable numbers, but it is much more common in some years than in others. Captain Wardlaw-Ramsay remarks that it is common in Karenne. Dr. Tirand that it is not rare in Cochinchina, and Mr. Simson, who first drew Dr. Jerdon's attention to the species, writes that it visits Dacca in an erratic manner, sometimes abundantly, sometimes in small numbers. Colonel Godwin-Austen met with it in the Khasia hills, and it has been procured also at Darjeeling. In the British Museum Catalogue is a record from Tenasserim, *Helper* being quoted.

**776. *Hirundo Javanica*.** *Sparrm., Mus. Carls.* ii. pl. 100; *Vieill., N. Dict. d'Hist. Nat.* xiv. p. 523; *Temm., Pl. Col.* iv. pl. 83; *Gray, Gen. B.* i. p. 57; *Temm. and Schleg., Faun. Jap. Aves*, p. 32; *Cab., Mus. Hein. Th.* i. p. 46; *Wall, Ibis*, 1860, p. 147; *Salvad., Ucc. Born.* p. 126; *Bourd., Str. F.* 1876, p. 374; *Fairb., Str. F.* 1877, p. 392; *Sharpe, Journ. Lin. Soc. Zool.* xiii. p. 498; *Hume and Dav., Str. F.* 1878, p. 43; *Ramsay, Proc. Lin. Soc. N. S. Wales* iii. p. 275; *Hume, Str. F.* 1879, pp. 47, 84; *Legge, B. Ceylon*, p. 597; *Hume, Str. F.* 1880, p. 120; *Davison, Str. F.* 1883, p. 345; *Sharpe, Cat. B. Br. Mus.* x. p. 142. *Hirundo frontalis*, *Quoy et Gaim., Voy. de l'Astrol. Zool.* i. p. 204, pl. 12, fig. 1. *Hirundo domicola*, *Jerd., Madr. Journ.* xiii. p. 173; *Blyth, Cat. B. Mus. As. Soc.* p. 198; *Kelaart, Prod. Cat.* p. 118; *Layard, Ann. and Mag. N. Hist.* xii. p. 170; *Jerd., B. Ind.* i. p. 158; *Holdsw., P. Z. S.* 1872, p. 418; *Jerd., Ibis*, 1871, p. 351. *Hypurolepis domicola*, *Gould, B. Asia* i. pl. 32; *Hume, Nests and Eggs, Ind. B.* p. 73; *id., Str. F.* 1874, p. 155. *Hypurolepis javanica*, *Oates, B. Br. Burm.* i. p. 308.—THE NEILGHERRY OR TROPICAL HOUSE SWALLOW.

Above glossy black or dull steel-blue, the white bases of the feathers of the hind neck showing through; a broad band on the forehead; the chin, throat, upper breast, cheeks, and ear coverts deep ferruginous; lores dusky; wings and tail dark brown, slightly glossed with steel-blue; the tail with an oval white spot on all the tail feathers, except those of the central pair; under surface of the body pale ashy, albescent on the abdomen; breast with dusky shaft streaks; sides of the upper breast with a bluish patch; sides of the body and flanks dull smoky brown; under tail coverts ashy, the feathers with white tips and subterminal patches of black.

*Length*.—5 inches; wing 4·2; tail 2·1; depth of fork 0·3; tarsus 0·4; bill from gape 0·65.

*Hab.*—Southern India and Ceylon, also British Burmah, Malay Peninsula, Java, Sumatra, Borneo, the Phillipine Islands, Celebes and some of the further islands. It is recorded from Mynall in Travancore, from Coonoor, Ootacamund (Neilgherries) and Bangalore. In British Burmah it was procured by Mr. Davison at Mergui in Tenasserim. Theobald found them breeding in Tenasserim during April. They not only build under the roofs of bungalows and in verandahs of houses, but also in caves and under boats which are unused. The nests are made of mud, cup-like in shape, and are lined with feathers. The eggs, normally, three in number, are white, speckled with reddish.

**777. *Hirundo Smithi*, Leach, *App. to Tuckey's Voyage Congo*, p. 407. *Hirundo filifera*, *Steph., Gen. Zool.* xiii. p. 78; *Gray, Gen. B.* i. p. 58; *Bp., Consp. Av.* i. p. 338; *Cab., Mus. Hein. Th.* i. p. 46; *Ferd., B. Ind.* i. p. 159, No. 84; *Hume, Str. F.* 1873, p. 164; *Adam, t. c.* p. 370; *Vipan., t. c.* p. 495; *Hume, Str. F.* 1874, p. 409; *Aitken, Str. F.* 1875, p. 212; *Butler, t. c.* p. 451; *Fairbk., Str. F.* 1876, p. 254; *Wardlaw-Ramsay, Ibis*, 1877, p. 466; *Hume and Dav., Str. F.* 1878, ii. p. 43; *Davidson and Wenden, Str. F.* 1878, p. 43; *Hume, Str. F.* 1879, p. 84; *Bingham, t. c.* p. 192; *Doig, t. c.* p. 370; *Butler, Cat. B. Sind, &c.*, p. 12; *Vidal, Str. F.* 1880, p. 43; *Reid, Str. F.* 1881, p. 18; *Davison, Str. F.* 1882, p. 292; *Murray, Vert. Zool. Sind*, p. 102. *Hirundo filicauda*, *Frankl., P. Z. S.* 1831, p. 115. *Uromitrus filifera*, *Bp., Rivist. Contemp. Torino*, 1857, p. 4; *Hume, Nests and Eggs, Ind. B.* p. 75; *Ball, Str. F.* 1874, p. 383; *id., Str. F.* 1875, p. 289. *Uromitrus filiferus*, *Oates, B. Br. Burmah*, i. p. 307.—The WIRE-TAILED SWALLOW.**

Head deep ferruginous; lores black; ear coverts, nape and entire upper surface purplish blue; wings glossy steel-blue; tail black, the outer web attenuated and elongated 5—6 inch beyond the rest, the two centre feathers unspotted purplish blue; rest of the feathers with a white spot on the inner web; under surface of the body white, tinged with pinkish on the breast; a crescent-shaped patch of feathers on each side of the breast dull purplish blue. Bill black; feet dark brown.

*Length.*—4·75 to 5·75 inches; wing 4·3; tail 2·85, to end of elongated feathers 4·75.

*Hab.*—Throughout the greater part of India and Cashmere, also Beloochistan (Quetta) and Afghanistan, extending into Tenasserim on the east and to Sind on the west. Recorded from the Salween River (Tenasserim), Bhamo (Burmah), Bengal, Kumaon, Nepaul, Behar, Mhow, Madras, Malabar, Deccan, Concan, Mysore, Kattiawar, N.-W. Himalayas, Kurrachee, Sukkur, Kotree, and Cashmere. Breeds in the plains of India during February and March, and again in July, August and September. In the lower ranges of the Himalayas, it breeds up to an elevation of 4,000 to 5,000 feet. *Hume* records having taken nests in April and May. He adds that they breed exclusively in the neighbourhood of water, under the cornices of bridges

under culverta beneath which there is some water, and under overhanging shelves of rock or kunker projecting from the face of stony or earthy river cliff. The nest is composed exteriorly of mud, and is usually lined with feathers. Eggs, 2—3 in number, a long narrow oval, a good deal pointed towards one end; ground color white or pinkish white, richly speckled and spotted with shades of reddish brown or brownish red. Often the markings form a zone round the large end. Size 0·65 to 0·8 × 0·5 to 0·57.

*Hirundo rufula*, Temm., a species distinguished by its blue head, cinnamon rufous rump fading off into creamy buff, and with the under surface fulvescent with mesial shaft streaks, is recorded from Bampur in Beloochistan, and a *var.* or *sub-sp.* closely resembling it but smaller from Pushut, Afghanistan. Wing 4·35—4·5 against 4·7 of *H. rufula*.

**778. *Hirundo nipalensis*.** *Hodgs., Icon. ined in Br. Mus. Passeres*, pl. 6; *id. J. A. S. B.* vi. p. 780; *Hume and Davison, Str. F.* 1878, p. 44; *Hume, Str. F.* 1879, p. 84; *Souly, t. c.* p. 233; *Bingham, Str. F.* 1880, p. 148; *Hume, t. c.* p. 246; *Oates, B. Br. Burm.* i. p. 306. *Hirundo daurica* (*non Pall.*), *Gray, Cat. Fissirostres, Br. Mus.* p. 23; *Ferd., B. Ind. i.* p. 160, No. 85 (1862 pt.); *Brooks, Ibis*, 1869, p. 46. *Lillia daurica*, *Hume, Nests and Eggs, Ind. B.* p. 78. *Cecropis nipalensis*, *Hume, Str. F.* 1875, p. 42. *Hirundo* (*Cecropis*) *nipalensis*, *Brooks, Str. F.* 1875, p. 230. *Lillia arctivitta*, *Hume, Str. F.* 1877, pp. 261, 266. *Hirundo arctivitta*, *Oates, B. Br. Burm.* i. p. 307.—SWINHOE'S STREAKED SWALLOW.

Forehead, crown, back, scapulars and lesser wing coverts glossy steel black; lores ashy; a spot in front of the eye black, a narrow supercilium and a broad patch behind and above the ear coverts chestnut, these patches narrowly and interruptedly connected on the nape; ear coverts, cheeks and the whole under surface white, narrowly streaked with dusky; rump chestnut, the band very narrow; upper tail coverts black; under tail coverts white at base, black at the tip, the black not more than 0·7 in length. Bill black; feet dusky.

*Length*.—7 inches; wing 4·4 to 4·7; smaller than *H. daurica*, *vera*.

*Hab.*—N. China, the Himalayas from Simla to Assam, wintering in the plains of India and the Burmese countries. Sharpe's record gives the following localities:—Upper Assam, Nepaul, Behar, Kamptee, Godavery Valley, Pegu and Tenasserim. Oates says Captain Wardlaw-Ramsay obtained a specimen on the Karin hills east of Tounghoo. Breeds in the Himalayas and the Dhoon, also at Murree about May, June, July and August. Eggs, pure white, 0·81—0·89 × 0·55—0·6.

**779. *Hirundo Japonica*.** *Temm. and Schleg., Faun Japon. Aves*, p. 33, pl. ii.; *Bp., Contp. Av.* i. p. 340. *Hirundo daurica*, *Swinh., Ibis*, 1860, p. 48; 1863, pp. 89, 255. *Hirundo striolata* (*non Tem. and Schleg.*), *Wall., P. Z. S.* 1863, p. 135; *Wald., B. Burm.* p. 127; *Hume and Dav., Str. F.*

1878, p. 44; *Oates, B. Br. Burm.* i. p. 305. *Lillia Japonica*, *Hume, Str. F.* 1877, p. 261. *Lillia substriolata*, *Hume, Str. F.* 1877, p. 264. *Cecropis erythropygia* (*nec. Sykes*), *Blakist and Pryer B. Japan*, p. 139. *Hirundo striolata*, *Seebohm, Ibis*, 1883, p. 169. *Hirundo Japonica*, *Sharpe, Cat. B. Br. Mus.* x. p. 162.—THE JAPANESE STRIPED SWALLOW.

*Adult*.—Forehead, crown, back, scapulars and lesser wing coverts glossy steel black; lores ashy; a spot in front of the eye black; a very narrow supercilium and a broad patch behind and above the ear coverts chestnut; these patches *narrowly and interruptedly* connected over the nape; ear coverts, cheeks and whole lower plumage white, tinged with rufous, and *broadly* streaked everywhere with dark brown; rump chestnut, the shafts of the feathers conspicuously black; upper tail coverts black; under tail coverts white at base, black at the end; the black portion being about an inch long; greater wing coverts, wings and tail black with a bluish gloss; under tail coverts like the back; rump band 1'1 inch with distinct black shafts.

*Length*.—7 to 7'4 inches; wing 4'55 to 4'7; tail 4; tarsus 0'65.

*Hab*.—Japan and China, extending into the Burmese countries. Captain Wardlaw-Ramsay obtained a specimen on the Karen hills, which the British Museum is now in possession of. According to Blakiston and Pryer, in the Catalogue of the Birds of Japan, the species builds a long bottle-shaped nest under the eaves of the buildings, and the eggs, six in number, are white.

Sharpe observes that *H. striolata* (Boie), distinguished by much broader rump stripes, is a larger race than *H. Japonica*, with a wing of 5'05—5'1 inches. I have not included the species owing to its occurrence in Burmah being doubtful, and the species being confounded by various authors with the present one.

**780. *Hirundo erythropygia*, Sykes, P. Z. S. 1832, p. 83; *Ferd., Madr. Journ.* xi. p. 237 (1840); *Blyth, Ibis*, 1866, pp. 237, 337; *Gray, Hand-l. B.* i. p. 69, No. 806 (1869); *Brooks, Ibis*, 1869, pp. 46, 47; *Blyth, Ibis*, 1870, p. 161; *Cock. and Marsh., Str. F.* 1873, p. 350; *Adam, t. c.* p. 370; *Aitken, Str. F.* 1875, p. 212; *Hume, t. c.* p. 318; *Butler, t. c.* p. 451; *Walden, Ibis*, 1876, p. 338; *Butler, Str. F.* 1877, p. 226; *Davidson and Wenden, Str. F.* 1878, vol. ii. p. 76; *Murray, t. c.* p. 113; *Legge, B. Ceylon*, p. 594 (1879); *Hume, Str. F.* 1879, p. 84; *Butler, Cat. B. Sind, &c.*, p. 13 (1879); *id., Cat. B. S. Bomb. Pres.* p. 14 (1880); *id., Str. F.* (1880), p. 377; *Wardlaw-Ramsay, Ibis*, 1880, p. 48; *Vidal, Str. F.* 1880, p. 43; *Butler, t. c.* p. 377; *Reid, Str. F.* 1881, p. 18; *Davidson, Str. F.* 1882, p. 292; *Davison, Str. F.* 1883, p. 345; *Seebohm, Ibis*, 1883, p. 169. *Hirundo daurica* (*non Pall.*) *Blyth, Cat. B. Mus. As. Soc.* p. 198 (1849, pt.); *Layard, Ann. and Mag. Nat. Hist.* xii. p. 170 (1873); *id. and Kelaart, Prodr. Cat., app.* p. 58 (1853); *Cass. Cat. Hirund. Mus. Philad. Acad.* p. 4 (1853); *Horsf. and Moore, Cat. B. E. I. Co. Mus.* i. p. 92 (1854, pt.); *Ferd., B. India*, i. p. 160 (1862, pt.); *Boulger, P. Z. S.* 1866, p. 568;**

*Holdsw., P. Z. S.* 1874, p. 419; *Murray, Vertbr. Faun. Sind*, p. 103 (1884). *Cecropis erythropygia*, *Gould, B. Asia*, i. pl. 29 (1868); *Ferd., Ibis*, 1871, p. 352; *Blyth, B. Burm.* p. 127 (1875); *Fairb., Str. F.* 1876, p. 254. *Lillia erythropygia*, *Hume, Nests and Eggs, Ind. B.* p. 76 (1873); *id., Str. F.* 1877, p. 255.—The RED-RUMPED SWALLOW.

*Adult.*—General colour above deep purplish blue with white striations where the bases of the feathers show through; the wing coverts like the back; quills blackish externally, glossed with dull blue; rump and upper tail coverts deep ferruginous, the longer coverts deep purplish blue; tail feathers blackish, glossed with dull blue; crown of head like the back, from which it is almost separated by a nuchal collar of deep ferruginous, the sides of the hinder crown and sides of the neck being of the latter colour and converging on to the nape, the nuchal collar being only interrupted by a few dark blue plumes in the form of spots; a narrow frontal line and a streak over the eye deep ferruginous; lores whitish, tipped with dusky; ear coverts pale rufous with dusky shaft streaks; cheeks, throat, and under surface of body whitish, slightly marked with rufous on the breast and flanks; the whole of the under parts narrowly streaked with dusky blackish shaft lines, disappearing on the under tail coverts, the long ones of which are deep blue black with whitish bases; under wing coverts and axillaries rather deeper fulvous than the breast, with nearly obsolete dusky shaft lines, which are, however, more plainly developed on the small wing coverts near the edge of the wing; quills dusky below, paler along the edge of the inner web. (*Sharpe.*) Bill, legs and feet black; iris brown. (*Legge.*)

*Total length.*—6·2 inches; culmen 0·35; wing 4·45; tail 3·11; tarsus 0·5.

*Hab.*—All over India, to Nepaul, Himalaya, Siberia, N.-E. Asia, Persia, Beloochistan and Afghanistan. In Ceylon rarely. Occurs in Sind, the Deccan, Kutch, Kattiawar, Rajutana and N. Gujerat; also the Punjab, N.-W. Provinces and Oudh, Bengal, Central and Southern India. It is a permanent resident of the plains of India, and breeds from April to August. The nest, according to Hume, is usually fixed to the under surface of some ledge of rock or the roof of some cave or building, and is constructed of fine pellets of mud or clay, making up a tubular passage terminating in a bulb-like chamber, some 4 to 7 inches in diameter. The eggs are pure white, and generally four in number. The nest chamber is lined sometimes thickly and sometimes thinly with feathers only as a rule, but occasionally with a mixture of these and fine grass. During the breeding season the old birds, like all the other species, fly round about their nest morning and evening, uttering quite a variety of rather pretty somewhat musical notes. During the day they remain near, and one of them generally in the nest, or the pair may be seen perched on some stone below the nest sitting for an hour at a time, preening their feathers, the male every now and then singing a few notes. *Hirundo hypertyra* is closely allied to this species, and is found in Ceylon.



**Gen. Petrochelidon.—*Cab.***

Tail square or only slightly emarginate; rump differing from the back in colour. (*Sharpe.*)

**781. *Petrochelidon fluvicola* (Blyth), *Sharpe, Cat. B. Br. Mus.* x. p. 200. *Hirundo fluvicola*, *Blyth, J. A. S. B.* xxiv. p. 470; *Ferd., B. Ind.* i. p. 161; *id., Ibis*, 1871, p. 352; *Hayes Lloyd, Ibis*, 1873, p. 406; *Hume, Nests and Eggs, Ind. B.* p. 80; *Adams, Str. F.* 1873, p. 370; *Aitken, Str. F.* 1875, p. 213; *Davidson and Wenden, Str. F.* 1882, p. 293. *Lagenoplastes fluvicola*, *Gould, B. Asia*, i. pl. 33; *Hume, Str. F.* 1875, p. 452; *Fairb., Str. F.* 1876, p. 254; *Butler, Str. F.* 1877, p. 217.—THE INDIAN CLIFF SWALLOW.**

Above glossy blue-black; lesser wing coverts the same; the remainder dusky blackish, glossed with steel-green; rump and upper tail coverts smoky brown, mottled with blackish; tail blackish with a steel-green gloss; crown of the head dull brick red, the feathers with blackish shaft lines; lores white, separated from the forehead by a line of black; ear coverts dusky brown, streaked with fulvous brown; abdomen and under tail coverts pure white with narrow dusky shaft lines.

*Length.*—4·5 inches; wing 4·6; tail 1·75; tarsus 0·4; culmen 0·25.

*Hab.*—India generally, Central India, Kutch, Kattiawar Punjab, Nagpoor, Berar and the Godavery Valley. It is also recorded from Mirzapoor, Ajmere, Ahmedabad, Etawah and Gwalior, also from the Dhoon. Hume says they breed from February to April, and again in July and August, building a more or less retort-shaped mud nest in cluster of from 20 to 200, packed as closely as possible. The normal number of eggs is three. They are generally long ovals, a good deal pointed at one end. In colour they are pure white or white, speckled, streaked and spotted with pale yellowish or reddish brown. In size they vary from 0·65 to 0·8 inch in length, and from 0·48 to 0·58 inch in breadth.

**Family.—MOTACILLIDÆ.**

Nine-quilled Passeres with bill generally of moderate length, slender, straight, and more or less deflected at the tip; rictus nearly smooth; wings long and pointed; tertiaries lengthened and nearly as long as the primaries; tail long; tarsus long and slender; toes moderate; hind claw long and slightly curved. No bastard primary; plumage either black and white, or grey and white with a good deal of yellow.

The family Motacillidæ comprises two groups of birds, the species of each bear a very close resemblance one to another. They live almost entirely on the ground, though some do perch on trees, and their natural habitat is by the river side, on the margin of lakes, damp ground, meadows, marshes and irrigated fields; some of the Anthineæ or pipits, however, affect bare stony

plains and perch on trees. Their habits are peculiar and characteristic. Living as they do on the ground they run at a great speed by short jerky movements, and when still, wag their tails up and down continually. Their food is chiefly insects, but some eat grain and seeds also. They breed mostly on the ground or on the ledges of rock, and lay whitish or clay-coloured eggs. A few species only breed in India proper, and those chiefly in the Himalayas and Cashmere, the rest (a considerable number) are migratory, and visit India only during winter.

Gen. **Motacilla**.—Linn.

- Bill moderate, slender and compressed at the tip, profile of culmen straight from the base of the bill to the tip; nostrils apert; wings with nine long primary quills, the first two subequal and longest; tertiaries equal to the primaries in length, or nearly so; tarsus long and slender; hind toe short with slightly curved claw.

Owing to the many stages of plumage in which the species of this large family of birds are met with in India, and also to the insufficient materials for comparison and study, I consider it best to follow Mr. Sharpe as closely as possible in the description and key to the plumage of each species, as the admirable manner in which he has worked them out, with the immense mass of materials at his hand, leaves nothing to be added or desired.

\* 782. **Motacilla alba**, Linn., *Syst. Nat.* i. p. 331; *Stoh.*, *Str. F.* 1875, p. 217; *Dresser*, *B. Eur.* iii. p. 233; *Blansf.*, *East Persia*, ii. p. 232; *Scully*, *Str. F.* 1876, p. 151; *Brooks*, *Str. F.* 1877, p. 472; *id.* *Str. F.* 1878, vol. ii. p. 137; *Hume*, *Str. F.* 1879, p. 103; *Scully*, *t. c.* p. 313; *Brooks*, *t. c.* p. 484; *Vidal*, *Str. F.* 1880, p. 69; *Biddulph*, *Ibis*, 1881, p. 68; *Scully*, *t. c.* p. 451; *Oates*, *B. Br. Burm.* i. p. 156; *Seeböhm*, *Hist. Br. B.* iii. p. 199; *Murray*, *Vert. Zool. Sind*, p. 166. *Motacilla dukhenensis*, *Sykes*, *P. Z. S.* 1832, p. 91; *Bp. Consp. Av.* i. p. 250; *Gould*, *B. Asia*, pl. 62; *Blansf.*, *Ibis*, 1863, p. 219; *Hume*, *Str. F.* 1873, pp. 29, 30; *Ball*, *Str. F.* 1874, p. 416; *Brooks*, *t. c.* p. 457; *id.* *Str. F.* 1875, p. 49; *Wald.* in *Bl. B. Burmah*, p. 97; *Hume and Davison*, *Str. F.* 1878, vol. ii. p. 137; *Vidal*, *Str. F.* 1880, p. 69; *Davison*, *Str. F.* 1883, p. 395. *Motacilla dakhaniensis*, *Fairb.*, *Str. F.* 1876, p. 260.—THE WHITE-FACED WAGTAIL.

The following is Mr. Sharpe's key to the plumage of this species:—

(a) Throat white or yellowish white.

(a') Forehead like the crown.

(a'') Throat dingy white, tinged with yellow; foreneck and chest dull sahy with a dusky patch in the centre of the former—

Young: 1st plumage.

(a''') Throat white, washed with yellow, separated from the white breast by a crescent of black on the foreneck—

Young: 1st autumn plumage.

(b') Forehead white.

(c') Crown grey like the back—*Young*: 1st winter plumage.

(d') Crown black, contrasting with the grey back—  
*Adult*: winter plumage.

(b') Throat and foreneck black.

(c') Head and nape black—*Adult* ♂ breeding plumage.

(d') Nape mixed with ashy—*Adult* ♀ breeding plumage.

"*Young in 1st plumage*.—Above uniform ashy grey, washed with olive; the lesser wing coverts the same; median and greater series dusky ashy, washed with brown externally, and with white at the ends; bastard wing, primary coverts and quills blackish edged with ashy externally, the secondaries with white, subterminally shaded with brown; tail black, the two centre feathers edged with white, the two outer ones white with blackish edgings to the inner web; the base of the penultimate feather also black; forehead and crown like the back; lores ashy; above the ear coverts a streak of yellowish white; ear coverts pale yellowish white; cheeks and throat dingy white with a slight yellowish tinge; foreneck, chest and sides of the body ashy grey with a patch of blackish on the foreneck; remainder of under parts white; thighs dull ashy with dusky bases; axillaries and under wing coverts white.

"From this plumage a complete moult brings the bird into its full winter plumage; the upper surface uniform grey, and there is generally a strong suffusion of yellow on the face, but—Sharpe says—this is not always the case, and may be peculiar to one sex or to the birds of the second brood. In the following spring the full plumage is reached not by a moult but by a change of feather, the black on the head generally appearing first and afterwards that on the throat. In the case of the female birds, at least in their first spring, the head never seems to become entirely black, the nape still retaining some ashy plumes. *The young male in first winter plumage* is light ashy grey above, washed with yellowish olive on the head and back; the rump being purer grey, and becoming dusky towards the upper tail coverts which are black, washed externally with ashy, the lateral coverts white on their outer webs; lesser wing coverts ashy grey like the back, and similarly washed with olive; median and greater wing coverts blackish, externally washed with brownish ashy, whiter towards the ends of the feathers; bastard wing, primary coverts and quills blackish, externally edged with dull ashy, the inner secondaries browner on the outer web which is fringed with dull white; tail as in the adult, but with black extending along the outer web of the penultimate feather; head light ashy grey, washed with yellowish olive; a frontal band of white obscured with yellowish olive; lores ashy; a streak of whitish yellow above the ear coverts, surmounted by a line of blackish along the sides of the crown; ear coverts pale yellowish, also the sides of the neck; throat yellowish white, followed by a crescentic band of black on the foreneck

which extends upwards in a broad line to the hinder part of the cheeks; the black crescent extending to a point on the centre of the chest, remainder of under surface of the body white, washed with yellowish on the upper breast, and with grey on the sides of the body and flanks; axillaries white, washed with yellow."

*Length*.—7 inches; wing 3.45; tail 3.35; tarsus 0.85; culmen 0.55:

"*The adult in winter plumage* has a grey back, white forehead, and black crown and nape; the sides of the crown, region of the eye, ear coverts, sides of neck, cheeks and throat pure white, sometimes with a slight tinge of yellow; on the foreneck a broad black crescent, extending to the sides of the throat to the hinder cheeks; otherwise the plumage is the same as in summer, excepting that the wing coverts are more ashy."

"*Adult male in breeding-plumage*.—General colour above light ashy grey from the nape to the upper tail coverts, the latter being blackish, edged with ashy grey, the lateral ones externally white, the outer greater coverts browner; bastard wing, primary coverts and quills dark brown, edged with ashy, the longer inner secondaries rather broadly margined with white, the two outermost white, black at the base, and obliquely along the edge of the inner web; a broad frontal band, lores, cheeks, sides of face, ear coverts and sides of crown pure white, the top of the head and nape black; sides of neck white, washed with ashy; throat and foreneck black, the lower feathers tipped white where they adjoin the breast, which is entirely white as the under tail coverts; flanks and sides of body light ashy grey, clearer on the sides of the upper breast; thighs ashy white; under wing coverts and axillaries white, the coverts near the edge of the wing with blackish bases; quills dusky brown below, lighter along the edge of the inner web, whiter near the base of the feathers. Bill, legs and feet black; iris dark brown."

*Total length*.—6.7 inches; culmen 0.5; wing 3.35; tail 3.35; tarsus 0.55.

*Adult female*.—Similar to the male. Females in the first spring.

With regard to *M. dukhunensis*, as the Oriental form of this Wagtail is called, specimens from Siberia, collected by Mr. Seebohm in the valley of the Yen-e-say, cannot be specifically separated from *M. alba*, being merely of a little purer french grey. This applies to the examples from India and Burmah collected in the winter season; and it seems to be a fact, as Mr. Brooks says, that the young ones killed in these countries have not the yellow face of European specimens; but this cannot be made a specific character, for many European individuals do not have it either.

A gradual transition seems to take place, as the species ranges eastwards, from the duller grey of the West-European specimens to the pure grey of the Siberian birds. This difference is only visible on the actual comparison of a large series, and may be due to a strain of *M. lugubris*, with which

*M. alba* undoubtedly sometimes crosses. A pair of birds presented by Lord Walsingham with their nest and young birds, to illustrate the breeding of the Common-Pied Wagtail of England (*M. lugubris*), proved to belong, the male to *M. alba*, and the female to *M. lugubris*. Mr. Seebohm informs us that in winter he has always seen the two consorting in flocks in the south of France; and it is, therefore, quite likely that, on their return to their breeding quarters, a White Wagtail may often mate with a Pied Wagtail. In addition to the purer grey of the Eastern birds, there is always more white on the wing coverts in the Siberian and Indian specimens than in West-European examples.

*Hab.*—The whole of Europe and Northern Asia, wintering in N.-E. Africa and Senegambia, also the plains of India.

Sub-sp. A. *Motacilla baicalensis*.—*Motacilla baicalensis*, *Swinhoe*, *P. Z. S.* 1871, p. 363; *David and Oust. Ois. Chine*, p. 301; *Slater, Ibis*, 1882, p. 433, is also described by Mr. Sharpe.

General colour of the *Adult male* (type of species).—Above very pure pearly grey, the rump like the back; the upper tail coverts blackish, edged with grey, the lateral ones externally white; lesser wing coverts like the back; median and greater coverts pure white, the blackish bases entirely hidden; bastard wing black, edged with white; primary coverts and quills blackish, externally edged with grey; the long secondaries externally white, preceded by a shade of light brown; tail feathers black, the two centre ones edged with white, the two outermost pure white, with the extreme base and a broad edge to the inner webs blackish; fore part of the head white; the hinder crown and hind neck black; lores, sides of face, cheeks, ear coverts, sides of hinder crown and sides of neck pure white; chin and sides of throat white; centre of throat, foreneck and chest black; remainder of under surface, including the under tail coverts, pure white; the sides of the breast and flanks ashy grey; axillaries white, washed with ashy; under wing coverts pure white. (*Sharpe*.)

*Length*.—7·2 inches; wing 3·5; tail 3·55; tarsus 0·85; culmen 0·55. (Mus. H. Seebohm.)

*Hab.*—Eastern Siberia, probably wintering in India and China. Oates has it as a synonym of *M. alba*, of which it is an eastern form. It is probably found in British Burmah. Sharpe's record of this is from Lake Baikal and India (Gould Collection), but there is no precise locality given.

**788. *Motacilla ocularis***, *Swinh.*, *Ibis*, 1860, p. 55; *id.*, *P. Z. S.* 1870, p. 129; 1871, p. 364; *David et. Oust.*, *Ois. Chine*, p. 299; *Seebohm, Ibis*, 1875, p. 345; *Hume and Dav.*, *Str. F.* vi. p. 518; *Hume, Str. F.* vii. p. 103; *Scully, Str. F.* viii. pp. 312, 315; *Hume, t. c.* p. 413; *Oates, Str. F.* x. p. 225; *id.*, *B. Br. Burm.* i. p. 158; *Dybowsky, Bull. Soc. Zool. France* viii. p. 360; *Sharpe, Cat. B. Br. Mus.* x. p. 471.—SWINHOE'S WAGTAIL.

*Key to plumage of M. ocularis.*

(a) Throat white or white tinged with yellow.

(a') Only a dusky brown patch on the foreneck; upper parts ashy brown.

*Young, 1st plumage.*

(b') A black crescent on the foreneck.

(a'') Head like the back white, forehead slightly indicated.

*Young, 1st winter plumage.*

(b'') Head black, forehead white.

*Adult, 2nd winter plumage.*

(b) Throat black up to the chin or nearly so.

*Adult, ♂ ♀, Summer plumage.*

"*Male and female in breeding plumage.*—Forehead and crown as far back as the eyes, face and sides of the neck pure white, remainder of the crown and nape and a streak extending from the angle of the bill through the eye and over the ear coverts to the nape black; lower surface from the chin to the lower breast black, remainder of lower plumage white; back, rump and upper tail coverts and also the smaller wing coverts pure grey; larger wing coverts, secondaries and tertiaries brown, margined on the outer webs with white; primaries brown, edged with white interiorly; tail black, with the exception of the two outer pairs of feathers which are white with a linear patch of black on the edge of the inner webs."

In winter the upper surface is blue grey, also the wings and tail; the head black with a broad white frontal band; instead of the throat being entirely black, there is only a black crescent on the foreneck,

The young have the margins to the wing coverts and tertiaries narrower, and the forehead is grey instead of being white; head suffused with a yellow tinge, and the grey of the upper plumage is much less pure white than in the adult; the black eye streak is well developed.

*Adult.*—Bill black, plumbeous at base; iris brown; legs and claws black.

*Length.*—7·8 to 8 inches; wing 3·85; tail 4; tarsus 0·94; culmen 0·6.

*Hab.*—From Kamschatka and Amoor Land to South China, breeding throughout this extent of country, wintering in the Burmese countries and extending westwards to Cachar and Nepaul. (*Sharpe.*) According to Oates it is very abundant in Pegu from the beginning of November to the end of April; more common on the Pegu canal and in the Sittang river, extending to Rangoon and up to Tounghoo. Davison procured it abundantly at Moulmein and further North. Captain Bingham got it in the Thoungyeen Valley.

**784. *Motacilla personata*, Gould, *B. Asia*, iv. pl. 63; *Blyth, Ibis*, 1865, p. 49; *Blanford, Ibis*, 1873, p. 219; *Severtz., Turkest. Fauna*, pp. 66, 139; *Hume and Henders., Lahore to Yark.*, p. 224; *Hume, Str. F.* 1873, pp. 29-30; *Ball, Str. F.* 1874, p. 440; *Brooks, i. c.* p. 456; *id.*, 1875,**

p. 250; *Scully, Str. F.* 1876, p. 150; *Brooks, Str. F.* 1877, p. 472; *Blanford, t. c.* p. 246; *Hume, t. c.* p. 329; *Seebohm, Ibis*, 1878, p. 344; *Brooks, Str. F.* 1878, ii. p. 140; *Legge, B. Ceylon*, p. 219; *Hume, Str. F.* 1879 p. 103; *Wardlaw-Ramsay, Ibis*, 1880, p. 60; *Reid, Str. F.* 1881, p. 48. *Motacilla dukhunensis*, *Ferd., B. Ind.* ii. p. 218 (*nec Sykes*). *Motacilla Cashmeriensis*, *Brooks, Pr. As. Socy. Beng.* 1871, p. 289; *id., J. A. S. Beng.* xli. p. 82; *id., Str. F.* 1874, p. 456.—The BLACK-FACED WAGTAIL.

*Adult male*.—A broad frontal band extending to the front of the eye and forming a narrow supercilium, white; sides of the face, ear coverts, chin, throat, lower parts from below the breast and under wing coverts white; crown and nape black; breast black; back, rump and upper tail coverts grey, the upper tail coverts darker; primaries dusky brown, the outer webs darker; secondaries and tertiaries darker brown, margined on their outer webs and tipped with white; the secondaries margined for the basal half on their inner webs with white; tail black, the two outermost feathers on each side white, except a dark brown margin on their inner webs. Bill and legs black; irides brown.

*Length*.—7·5 to 8 inches; wing 3·6 to 3·7 inches; tail 4·5 to 4·75; bill at front 0·75.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Central Provinces, Beloochistan, Persia, South Afghanistan, East Turkistan; also in Rajputana. A winter visitant throughout India; breeds in Persia and Cashmere.

The Wagtails of India have been fully treated of by Mr. Hume, in Vols. I. and II. of *Stray Feathers*, in respect to the distinctness of the several species occurring in India, and the outcome of his investigations has placed the present species under the name it bears here. "In winter," Mr. Hume says, "both *M. personata* and *dukhunensis* = *alba* entirely lose in both sexes the black of the head, which is replaced in the male by a dark, in the female by a light, grey. The black of the chin, throat, and breast is reduced in *dukhunensis* = *alba* to a moderately broad more or less crescentic pectoral band with two ill-defined broken blackish stripes running up the side of the neck, as it were from the points of the crescent, which stripes never, he thinks, entirely disappear, though in some specimens they become entirely obsolete; the broad white frontal band remains unchanged in width or nearly so in the adult male, though its colour is less pure; but in the female it is greatly diminished in width so as in some specimens to become almost obsolete; while in all specimens it is more or less overlaid with sordid grey. In *personata*, on the other hand, the whole breast *always* remains black, and though the chin and upper part of the throat are white, the lower part of the throat is still more or less speckled with black. In the perfect winter plumage of both species, the amount of the black on the breast, sides of the neck and throat at once serve to distinguish the two species, but specimens of *alba* changing into winter plumage often (so far as the amount of black on the throat is concerned) exactly resemble the perfect winter plumage of *personata*, and the only ready and unfailing diagnosis of the

two species is that *in both sexes, and at all seasons, the ear coverts and aural region are in personata* black, blackish, or dark grey; in *dukhenensis* = *alba* pure white or greyish or sordid white."

Sharpe (*Cat. B. Br. Mus.* x. p. 481) says that old birds in winter plumage are remarkably like the summer plumage, and have the same black ear coverts, the chin, however, is white, as well as a good deal of the throat and the forepart of the cheeks, so that a narrow black stripe is left between the white lores and white cheeks, running from the base of the bill to the ear coverts. It seems certain, he adds, that old birds have the white chin spot for a short time only, for December specimens have nearly got the full black chin.

The female in breeding plumage (*Gilgit, Scully*.) exactly resembles the male. *Length*—6·5 inches; *culmen* 0·5; *wing* 3·5; *tail* 3·3; *tarsus* 0·9.

**785. *Motacilla leucopsis*, Gould, P. Z. S. 1837, p. 78; Swinh., P. Z. S. 1870, p. 121; Hume, Str. F. 1879, p. 103; Scully, t. c. p. 313; Oates, B. Br. Burm. i. p. 154. *Motacilla Hodgsoni*, Hodgs., *Icon. ined. in Brit. Mus. Passeres*, pl. 113, fig. 2. *Motacilla alboides*, Hodgs., *Asiat. Res.* xix. p. 191. *Motacilla luzoniensis* (*non. Scop.*), Gray, *Cat. Mamm., &c., Nepaul*; *Bp. Consp. Av.* i. p. 250; *Jerd., B. Ind.* ii. p. 118; Hume, Str. F. 1873, pp. 26-28; Ball, t. c. p. 73; Hume, Str. F. 1874, p. 237; Blyth and Wald., *B. Burm.* p. 96; Hume and Oates, Str. F. 1875, p. 142; Hume, Str. F. 1876, p. 291; Wald., *Trans. Z. S.* ix. p. 198; Wardlaw-Ramsay, *Ibis*, 1877, p. 462; Hume and Dav., Str. F. 1875, p. 362; Anderson, *Zool. Yunnan Aves*, p. 609; Brooks, Str. F. 1878, ii. p. 137; Hume, t. c. p. 519.**

*Key to the plumage of M. leucopsis.*

- (a) Forehead like the back; upper surface light ashy or pale olivaceous; least wing coverts like the back; median coverts white with a mesial streak of dark brown; on the foreneck a dusky blackish patch.

*Young, 1st plumage.*

- (b) Forehead white; upper surface grey; median wing coverts white; a narrow black band on the foreneck.

*Young 1st winter.*

- (c) Forehead white; head black; back grey or grey mottled with black; least wing coverts black; a black band on foreneck.

*Adult, second winter.*

- (d) Forehead white; remainder of upper surface black, as also the least wing coverts; black extending on the throat, leaving the upper throat white; secondaries with the white confined to the inner web.

*Adult, breeding plumage.*

- (e) Black extending on to the chin; base of secondaries white on both webs.

*Adult, final plumage.*



*Male and female in breeding plumage.*—Forehead, lores, ear coverts, feathers over the eye, sides of the head and of the neck pure white; the whole upper plumage, chin, throat and breast black; lower plumage white; the four central pairs of rectrices black, narrowly edged with white; the next pair white, with a streak of black on the edge of the inner web; the outer pair white, with a still narrower streak of black on the inner web; lesser wing coverts black; median and greater series pure white, with concealed dark bases; bastard wing, primary coverts and quills black, edged with ashy white, purer and broader on the secondaries; under tail coverts white; thighs white with dark bases to the feathers; under wing coverts and axillaries pure white. Bill black, bluish below; iris brown; legs dark brown or nearly black. (*Sharpe*.)

*Length.*—6·8 to 7·7 inches; wing 3·45 to 3·5; tail 3·4 to 3·6; tarsus 0·85 to 0·9; culmen 0·65.

In winter the black of the upper plumage becomes iron grey; the frontal band is washed with brown and becomes much like the back, the chin and throat are white, and there is only a circular dark patch on the breast.

*Hab.*—Eastern Siberia to China generally and the Himalayas, wintering in Southern China, the Burmese countries, the Andaman Islands and the plains of India (*Sharpe*). Nepal, Darjeeling, Bengal, Assam, Bhamo, Pegu, Tavoy and Tenasserim are recorded localities. In Pegu, according to Oates, it is found abundantly over the whole of the plains during winter, arriving about the middle of September and leaving in April. In the Tenasserim Division it is only found in the northern half. It is one of the commonest birds wherever it occurs, and frequents by preference margins of ponds and rivers.

**786. *Motacilla Hodgsoni*, Blyth, MSS.; Hodgk. Icon. ined. in Br. Mus. Passeres, pl. 133, fig. 3; Blanford, J. A. S. B. 1872, p. 59; Hume, Str. F. 1873, p. 26; Brooks, Str. F. 1875, pp. 247, 278; id., *ibid.*, 1878, p. 472; Sechobum, Ibis, 1878, p. 346; Brooks, Str. F. 1878, ii. p. 140; Hume, Str. F. 1879, p. 103; Scully, t. c. p. 312; Brooks, t. c. p. 484; Scully, Ibis, 1881, p. 451. *Motacilla luzoniensis*, Hume and Henderson, Lahore to Yark, p. 223.—HODGSON'S WAGTAIL.**

#### PLATE.

*Adult in summer plumage.*—A broad frontal band, including in its extent the sides of the crown, lores, feathers all round and below the eye, and also behind the eye, above the black ear coverts white; crown of the head, nape, back, scapulars and whole upper surface including the upper tail coverts black, the latter with white edges on the outermost; a line of black from the gape, joining the black of the nape and sides of the neck; followed by a white line, the feathers being mottled with black; chin, throat, sides of the neck, foreneck and breast black; under surface of the body, including the under tail coverts, axillaries and under coverts, white; median and greater series of wing coverts white, with concealed dark bases to the latter; bastard

wing, primary coverts and quills black, edged with white, more broadly so on the margins of the secondaries; tail black, the outermost white, with a broad black margin on the inner web. (*Sharpe*.)

The adult female is like the male, except that the back is dusky ash colour. In the winter plumage it is ashy grey on the back; the chin is white, and the feathers of the foreneck and throat are mottled with white.

*Hab.*—The Himalayas, extending to Turkestan to the West and Tenasserim in the South. The recorded localities are Gilgit, Nepaul, Bhootan, Assam and the Salween river in Tenasserim.

**787. *Motacilla Madraspatensis*, Gm., Syst. Nat. i. p. 961; Gould, B. Asia, pl. 61; Holdsworth, P. Z. S. 1872, p. 458; Severtz., Turkest. Fauna, pp. 66, 139; Murray, Str. F. 1878, p. 113; Legge, B. Ceylon, p. 107; Hume, Str. F. 1879, p. 103; Reid, Str. F. 1881, p. 47; Davison, *ibid.*, 1881, p. 310. *Motacilla madraspatana*, Blyth, J. A. S. Beng. xvi. p. 428; Bp. Consp. Av. i. p. 251; Ferd., B. Ind. ii. p. 217; Hume, Nests and Eggs. Ind. B. p. 377; *id.*, Str. F. 1873, p. 28; Fairbank, Str. F. 1876, p. 200; Dresser, Ibis, 1876, p. 177; Brooks, Str. F. 1877, p. 472; Murray, Hdbk., Zool. Sc., Sind, p. 165; *id.*, Vert. Zool. Sind, p. 164; Davison and Wenden, Str. F. 1878, p. 348; Seebohm, Ibis, 1883, p. 92. *Motacilla picata*, Frankl., P. Z. S. 1831, p. 119.—The PIED WAGTAIL.**

Head, lores, sides of the face, nape, ear coverts, chin, throat, breast, back, rump and upper tail coverts black; a broad white stripe from the nostrils over the eye as a supercilium and extending to the nape; primaries and their coverts, secondaries, tertiaries and inner webs of greater coverts dark brown; the primaries and their coverts narrowly, the secondaries, tertiaries, median and greater coverts tipped, and broadly margined on their outer webs with white, forming a conspicuous wing patch; the basal half of all the primaries and secondaries white on the inner webs, and tipped with white; the inner webs of the innermost narrowly margined with white; tail black, the two outermost feathers on each side white, except a margin of dark brown on their inner webs, which is broader on the next outermost; breast, belly, vent, under tail and wing coverts white; edge of the wing and thigh coverts white, with a few dark spots. Bill and legs black; irides dark brown.

*Length*—8·25 to 9 inches; wing 3·75 to 4; tail 4; bill at front 0·5; tarsi 1·0.

*Hab.*—Nearly throughout India, extending into the Eastern Himalayas; westward to Cashmere, and thence to Turkestan. Occurs in Sind, Kutch, Rajputana, Guzerat, Concan and Deccan, Khandeish, Berars, Central and Southern India, Ceylon and Sikkim. The localities quoted are,—Kumaon, Nepaul, Behar, Mhow, Saugor, Kamptee, Deccan, Madras, Travancore and Ootacamund.

According to Hume, the Pied Wagtail breeds throughout India from north to south, only avoiding the low country of Bengal Proper. It ascends to

mountains of Southern India, and breeds at Ootacamund. The months are generally March, April and May. They nest in the neighbourhood of water, in holes in banks; crevices in rocks, under stones, in drains, holes in walls, and in fact anywhere. The normal number of eggs is four. They differ much in size and shape, and vary from a long to a broad oval more or less pointed towards the small end. The ground colour of the eggs varies from pale brownish to greenish white, and the markings are clouds, smudges, streaks, spots and specks of earthy brown, dark olive brown and sometimes purplish brown.

**788. *Motacilla melanope*, Pall., Reis. Russ. Reichs. iii. App. p. 696; Gm., Syst. Nat. i. p. 997; Dresser, B. Eur. iii. p. 251, pl. 128; Legge, B. Ceylon. p. 610. *Motacilla boarula*, Linn., Mant. p. 517; Gm., Syst. Nat. i. p. 997; Gould, B. Eur. ii. pl. 147; Bp. Comp. List. B. Eur. and N. Amer. p. 19; Blyth and Wald., B. Burm. p. 97. *Motacilla sulphurea*, Bechst. Natürg. Deutschl. iii. p. 459; Blanford, East. Pers. ii. p. 233; Seeböhm, Hist. Br. B. ii. p. 263. *Calobates sulphurea*, Kaup., Naturl. Syst. p. 33; Jerd., B. Ind. ii. p. 220, No. 592; Butler and Hume, Str. F. 1875, p. 489; Butler, Str. F. 1877, p. 230. *Calobates boarula*, Swinh., Ibis, 1870, p. 346; Hume, Str. F. 1873, p. 201; id., Nests and Eggs, Ind. B. p. 381; Murray, I'dbk. Zool., &c., Sind, p. 167; id., Vert. Zool. Sind, p. 166. *Calobates melanope*, Swinh., P. Z. S. 1871, p. 364; Brooks, J. A. S. B. xli. p. 82; Fairb., Str. F. 1876, p. 260; Bourd., t. c. p. 401; Tweed., Ibis, 1877, p. 310; Hume and Dav., Str. F. 1878, p. 362; Davison and Wenden, Str. F. 1878, ii. p. 84; Hume, Str. F. 1829, pp. 63, 103, 161; Scully, t. c. p. 315; Vidal, Str. F. 1880, p. 69; Reid, Str. F. 1881, p. 48; Davison, Str. F. 1882, p. 310; id., Str. F. 1883, p. 395; Oates, B. Br. Burm. i. p. 159.—The GREY AND YELLOW WAGTAIL.**

Head, nape, sides of the face and back pale grey, with an olive tinge; rump and upper tail coverts pale greenish yellow; chin, supercilium and throat white, rest of under surface yellow, purest on the middle of the abdomen, under tail coverts and flanks; primaries dusky brown, lighter on the margin of their inner webs, and darker on the outer; secondaries dusky brown, white on both webs at their bases, forming a conspicuous wing band; tertiaries dark brown, also white at their bases, and edged on both webs with yellowish, narrow on the outer, and broad on the inner webs, being a continuation of the basal white patch; tail dark brown, nearly black, the feathers with greenish yellow edging, the outermost feathers whiter and dark shafted; the next also white, both the shaft and outer web for three-fourths their length dark brown. Bill black; legs pale brown; irides brown.

*Length*.—7.25 to 7.5 inches; wing 2.25 to 2.5; longest tertiaries the length of the first three primaries; tail 3.8; bill at front nearly 0.5. In summer plumage the chin and throat are black, and the under parts dark yellow; the upper surface is clear blue grey, with a slight wash of olive yellow on the

back and crown; rump and upper tail coverts sulphur yellow, tinged with olive; a short streak from the eye over the ear coverts and a moustacial stripe white; three middle pairs of tail feathers black, slightly edged with yellow on the outer webs; the next two pairs black on the outer webs and white on the inner; the outer pair all white; wing coverts dark brown edged paler; quills dark brown; the tertiaries edged broadly with yellowish white. The birds found in India during winter with a buff coloured throat and eyebrow are immature.

*Hab.*—Central and Southern Europe, N.-E. Africa, Australia and Asia Minor. Occurs throughout India to Nepal and Ceylon as a winter visitant; also in Sind, Punjab, and N.-W. Provinces; Beloochistan, Persia and Afghanistan; Kutch, Kattiawar, Jodhpore, Jeypore, North Guzerat, Concan, Deccan, and Central and Southern India; also the Indo-Burmese countries, China, the Malay Peninsula, Sumatra, Java and Borneo. Breeds in Cashmere, according to Brooks, along the mountain streams at elevations of above 6,000 feet during the month of May. Eggs, 4—5 in number, nearly uniform in shape and size, broad ovals at the larger end and much compressed and pointed at the smaller end. Typically the ground colour is yellowish or brownish white, closely mottled and clouded all over with pale yellowish brown or brownish yellow. In length the eggs vary from 0.68 to 0.73 and in breadth from 0.53 to 0.55.

**789. *Motacilla citreola*.** *Pall., Reis. Russ. Reichs.*, iii. *App.* p. 696; *Gm., Syst. Nat.* i. p. 963; *Tem., Man. d'Orn.* p. 259; *Gould, B. Eur.* ii. pl. 144; *Dresser, B. Eur.* iii. p. 245; *Sharpe, Cat. B. Br. Mus.* x. p. 503. *Budytes aureocapilla, Less., Traite* p. 422; *Hume, Lahore to Yark.* p. 225. *Budytes citreola, Sykes, P. Z. S.* 1832, p. 90; *Ferd., Madr. Journ.* xi. p. 9; *Bp., Consp. Av.* i. p. 250; *Hume, Ibis*, 1870, p. 142; *Wald., t. c.* p. 293; *Brooks, J. A. S. B.* xli. p. 82; *Ball, Str. F.* 1873, p. 73; *Hume, t. c.* p. 202; *Adam, t. c.* p. 384; *Hume, Str. F.* 1874, p. 239; *Blanford, East. Pers.* ii. p. 235; *Murray, H'bk. Zool., &c., Sind.*, p. 168; *id., Vert. Zool. Sind.*, p. 169. *Budytes calcarata, Hodgs., Asiat. Res.* xix. p. 190.—THE GREY-BACKED YELLOW WAGTAIL.

*Adult.*—Forehead, crown of head, sides of the face, ear coverts, chin, throat, breast, and entire under surface bright yellow, paler on the vent, and nearly white on the under tail coverts; nape and upper back black; lower back and scapulars dark grey; rump and upper tail coverts pale or dark brown or yellowish green, the feathers edged with greenish; primaries and secondaries dusky; tertiaries dark brown; the primaries and secondaries faintly edged and tipped with white, and the tertiaries broadly so, all basally white on their inner webs; lesser wing coverts like the back and tipped brown; median and greater coverts brown, edged with white and forming two conspicuous white or yellowish white bands; the second band oblique in the closed wing, being formed by the white of the greater coverts, and that of the innermost tertiaries, the longest of which is nearly equal in length with the 4th

primary; under wing coverts white; tail black; the feathers with a faint tinge of whitish on their outer webs; the two outermost tail feathers on each side white, with a brown margin on their inner webs, to about half an inch from the tip; the next black, with the edge of the outer web and tip white. Bill and legs pale brown; irides brown.

*Length*.—7·1 inches; wing 3·18; tail 2·75; bill at front 0·4.

The adult female is much browner above and has not the yellow head, which is dull olive greenish, with the eyelid and a distinct eyebrow yellow; the cheeks and under surface of the body are yellow. The adult male in winter plumage is very pale yellow, and the forehead and sides of the crown only are yellow, the top of the head being dusky greenish.

*Hab*.—E. Europe, Africa; Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Kutch, Kattiawar, Rajputana, Deccan; Beloochistan, Persia, Afghanistan, and E. Turkestan; Nepaul, Gilgit, N.-W. and Central India, Darjeeling, Assam and Bhamo. Breeds in Cashmere, where Mr. Theobald found the nest placed in a depression in soft earth beneath a rock. Eggs, four in number, pale grey, dotted with greyish brown.

**790. *Motacilla citreoloides*** (Hodgs.), Gray, *Hand.-l. B.* i. p. 247. *Budytes citreoloides*, Hodgs. in *Gray's Zool. Misc.* 1844, p. 83; Gould, *B. Asia*, iv. pl. 64; *Butler and Hume, Str. F.* 1875, p. 490; *Butler, Str. F.* 1877, p. 230. *Budytes citreola*, Blyth, *Cat. B. Mus. As. Soc.* p. 138; *Ferd., B. Ind.* ii. p. 225, No. 594 (*acc. Pall.*); *Hume, Str. F.* 1873, p. 202; *Sharpe, Cat. B. Br. Mus.* x. p. 50. *Budytes calcaratus*, Blyth, *Ibis*, 1865, p. 49; *Wald., Ibis*, 1869, p. 214; *Hume, Nests and Eggs, Ind. B.* p. 382; *Wald., B. Burmah*, p. 96; *Brooks, Str. F.* 1876, p. 502; *Fairb., l. c.* p. 560; *Hume and Dav., Str. F.* 1878, p. 364; *Reid, Str. F.* 1881, p. 48; *Oates, B. Br. Burm.* i. p. 163.—THE BLACK-BACKED YELLOW WAGTAIL.

*Adult male in breeding plumage*.—Entire head, chin, throat, breast, and under surface bright yellow; back, rump and upper tail coverts dark brown, nearly black; lesser wing coverts dark grey; median and greater wing-coverts dark brown, margined and tipped with white; the tertiaries broadly margined with white; primaries and secondaries dark brown on their outer webs, dusky on their inner, and with whitish margins; tail dark brown or black, the feathers very narrowly edged with greenish; the four outermost white, except a dusky brown margin on the inner web for three-fourths their length. In winter the adult is light ashy grey above, the nape and sides of the breast darker; head and under surface yellow, olivaceous on the flanks; primaries dusky, edged with greyish white on their outer webs; secondaries dusky; tertiaries darker, broadly margined with white; wing coverts brown, broadly tipped with white, forming two conspicuous wing bands; lower tail coverts albescent or very pale yellow; tail as in the breeding plumage. Bill and legs black; irides brown.

*Length*.—6·5 to 7 inches; wing 3·5; tail 3·5; bill at front 0·5.

*Hab.*—India generally to Nepaul. Affects, during winter, the paddy fields, the banks of the River Indus, marshes and canals. Numerous in Sind, on the Munchur; also in Rajputana and the Deccan, Beloochistan, Afghanistan, and E. Turkestan; Nepaul, Assam, N.-W. Himalayas, and Gilgit.

**791. *Motacilla beema*.** *Sykes, P.Z.S.* 1832, p. 90; *Sharpe Cat. B. Br. Mus.* x. p. 521. *Budytes flava* (*non L.*), *Hume, Ibis*, 1869, p. 357; 1870, p. 142; *id.*, *Str. F.* 1874, pp. 81, 238; *Armstrong, Str. F.* 1876, p. 329; *Butler, Str. F.* 1877, pp. 210, 230; *Hume, Str. F.* 1879, pp. 65, 103; *Seebhom, Ibis*, 1880, p. 189.—THE LONG-CLAWED YELLOW WAGTAIL.

*Adult male*.—General colour above yellowish green, rather brighter yellow towards the lower back and rump; upper tail coverts dusky brown, edged with yellowish, the lateral ones externally white, washed with yellow; lesser wing coverts like the back; median and greater coverts dull brown, edged and tipped with dull olive yellow, or white, tinged with olive yellow; primary coverts and quills dark brown, edged with ashy olive; secondaries broadly edged with yellowish white or brown, washed with olive; tail feathers blackish, edged with pale olive yellowish, the two outer ones white, with a broad oblique mark of dark brown on the inner web; head and hind neck light pearly grey; lores dusky, surmounted by a very broad white eyebrow, extending from the base of the nostrils to above the ear coverts; ear coverts white, only the upper portion dark slaty or dusky blackish; cheeks and chin white; remainder of throat and under surface of body brilliant yellow, a little more green on the sides of the upper breast; thighs ashy; axillaries yellow, dusky ash colour at the base; under wing coverts yellow.

*Length*.—5·8 to 6 inches; wing 3·15; tail 2·8; tarsus 0·95; culmen 0·6.

*Hab.*—N.-W. Himalayas to Afghanistan, wintering in the plains of India. It has been found in Kandahar and Nepaul; also in Sind, Mhow (Central India), Sikkim and Behar.

**792. *Motacilla borealis*,** *Sundev, Œfv. K. Vet.-Akad. Förh. Stockh.*; *Sharpe, Cat. B. Br. Mus.* x. p. 522. *Budytes flava melanocephala, DeSelys-Longchamps, Faun. Belg.* p. 88. *Motacilla viridis, Gray, Gen. B.* i. p. 203. *Budytes viridis, Ferd., Madr. Journ.* xiii. p. 132; *Blyth, J. A. S. B.* xvi. p. 430; *Bp., Consp. Av.* i. p. 250; *Ferd., B. Ind.* ii. p. 222, No. 593; *Holdsworth, P. Z. S.* 1872, p. 458; *Wald. and Layard, Ibis*, 1872, p. 97; *Blyth and Wald., B. Burm.* p. 96; *Seebom and Harvie-Brown, Ibis*, 1876, p. 122; *Brooks, Ibis*, 1877, p. 208; *Legge, B. Ceylon*, p. 617; *Oates, B. Brit. Burm.* i. p. 161. *Budytes cinereocapillus (nec. Savi.), Hume, Ibis*, 1869, p. 357; *Brooks, J. A. S. Beng.* xli. p. 82; *Adam, Str. F.* 1873, p. 384; *Hume, Str. F.* 1874, p. 237; 1875, p. 489; *id.*, *Oates, t. c.* p. 142; *Fairb., Str. F.* 1876, p. 260; *Hume and Dav., Str. F.* 1878, pp. 363, 518;

*Ball, Str. F.* 1878, ii. p. 219; *Davison and Wenden, t. c.* p. 84; *Brooks, t. c.* p. 139; *Hume, Str. F.* 1879, pp. 65, 103, 161; *Vidal, Str. F.* 1880, p. 69; *Davison, Str. F.* 1882, p. 310; *Davison Str. F.* 1883, p. 396.—The GREY-HEADED WAGTAIL.

*Male and female in breeding plumage.*—Whole head from bill to the nape deep slaty; lores and ear coverts nearly black; a narrow indistinct line over the lores; a short streak of white occasionally behind the eye, frequently absent; upper plumage dull greenish yellow; upper tail coverts brown, margined with yellowish; median and greater coverts brownish black, edged and margined with yellowish white; quills brown, the secondaries and tertiaries margined with yellowish white on the outer webs; four central pair of tail feathers black; the two outer pairs black at base and white on the terminal portion, the junction being oblique; chin white, the whole lower plumage bright yellow; a little dusky on the lower throat.

In winter the head becomes greenish yellow like the back and the ear coverts also become yellowish; the eyestreak is distinct and the under surface of the body duller yellow. *The young* are more or less fulvous or white below, and there are spots on the throat and breast. Bill blackish brown; the base of the lower mandible yellowish; iris brown; legs, feet and claws dark horn colour. (*Oates.*)

*Length.*—7 inches; wing 3·2; tail 3·1; tarsus 0·9; bill from gape 0·7; culmen 0·5.

*Hab.*—From Northern Scandinavia across Northern Europe and Siberia, occurring on migration throughout Southern Europe down to South Africa, and being met with in winter throughout the plains of India, the Burmese countries and the Malay Peninsula. (*Sharpe.*) It occurs in Kandahar and throughout S. Afghanistan; also in the N.-W. Provinces, Punjab, and Sind. It is recorded from Nepaul, Behar, Mhow, Calcutta, Poona and Sholapoor in the Deccan, Madras, Assam, Pegu, Tenasserim and Ceylon. In Burmah Oates says it is abundantly distributed over the plans of Arrakan and Pegu and in the Northern and Central portions of Tenasserim as far South as the Malay Peninsula. Its breeding habitat is Europe, where, it is said to place its nest on the ground under cover of a tussock on the side of a ditch. The nest is made of fine roots and fibres, and lined with horsehair and wool. Eggs, 4—5 in number, white, spotted with grey. In fact it has a very wide distribution in India during winter, being then found in swampy lands, grass fields, meadows and paddy fields.

**793. *Motacilla Feldeggii*, Michah., Isis, 1830, p. 814.** *Motacilla melanocephala*, *Licht., Verz. Doubl.* p. 36. *Budytes melanocephalus*, *Bp., Faun. Ital. Ucc.* pl. 31, fig. 3; *Sykes, P. Z. S.* 1832, p. 290; *Ferd., Madr. Journ.* p. 9; *Blyth, Ibis*, 1876, p. 30; *Hume, Ibis*, 1870, p. 195; *Blanf., Geol. Zool. Abyssinia*, p. 381; *Adam, Str. F.* 1873, p. 384; *Stol., Str. F.* 1874, p. 464; *Butler and Hume, Str. F.* 1875, p. 490; *Blanf., East. Persia*, ii.

p. 235; *Hume and Dav., Str. F.* 1878, p. 363; *Brooks, Str. F.* 1878, ii. p. 138; *Murray, Handbk. Zool., &c., Sind,* p. 167; *id., Vert. Zool. Sind,* p. 168; *Davison, Str. F.* 1881, p. 310; *Reid, Str. F.* 1881, p. 48.—The INDIAN FIELD WAGTAIL.

*Adult male in breeding plumage.*—Head, nape, lores, sides of the face and ear coverts black; back, scapulars, rump and upper tail coverts yellowish green, the latter lighter, and the feathers edged with yellowish; chin white or buffy white; rest of under surface pure yellow; primaries and secondaries dull brown, lighter and whitish on the margins at the base of their inner webs; tertiaries dark brown, edged on their outer webs with yellow; lesser wing coverts yellowish olive, subterminally dark brown, and tipped yellowish; median and greater coverts dark brown, tipped yellowish, forming two conspicuous wing bands; tail black, margined with greenish, the two outermost feathers on each side white, except a broad dark brown margin on their inner webs; bill and legs dark brown; irides brownish.

*Length.*—6·25 to 6·5 inches; wing 3·1 to 3·25; tail 2·75; bill at front 0·43.

The adult in winter garb is olive green above, with a yellowish white supercilium; the chin and throat white, and the rest of the under surface yellow; the wing bands formed by the median and greater coverts are paler, the yellow edgings of the tertiaries broader and purer yellow. The female is like the male, but in some specimens (in December) there is a brown band across the breast.

*Hab.*—S.-E. Europe, N.-E. Africa, and Moluccas; Sind, Punjab, N.-W. Provinces, Bengal, Southern and Central India, Deccan, Concan, Kutch, Kattiawar, Jodhpore, Beloochistan and Afghanistan. With the last species it is very abundant in the large marshes, and especially on the Munchur Lake in Sind.

#### Gen. *Limonidromus*.—Gould.

General form and characters of *Motacilla*, but with the plumage uniform; feet pale; bill long and exceeding in length the outer toe and claw. Intermediate between the Wagtails and Pipits both in structure and habits.

**794. *Limonidromus indicus*, Gould, B. Asia, iv. pl. 67; Holdsworth, P. Z. S. 1872; Walden, Ibis, 1874, p. 239; Salvad., Ucc. Born. p. 261; Hume, Str. F. 1874, p. 239; 1875, p. 142; Blyth and Wald., B. Burm. p. 16; Bourd., Str. F. 1876, p. 401; Hume and Dav., Str. F. 1878, p. 364; Legge, B. Ceylon, p. 614; Hume, Str. F. 1879, pp. 65, 103; Vidal, Str. F. 1880, p. 69; Bingham, t. c. p. 189; Oates, B. Brit. Burm. i. p. 164; Davison, Str. F. 1883, p. 397; Sharpe, Cat. B. Br. Mus. x. p. 532. *Motacilla indica*, Gm., Syst. Nat. i. p. 962; Gray, Gen. B. i. p. 203. *Nemoricola indica*, Blyth, J. A. S. Beng. xvi., p. 429; Rp., Conspect. i. p. 251; Ferd. B. Ind. ii. p. 226, No. 595; Hume, Str. F. 1873, p. 450; Armstrong, Str. F. 1876, p. 329.—The BLACK-BREASTED WAGTAIL.**



Above dull olive brown, the upper tail coverts dark brown, the lateral ones with whitish margins; ear coverts and lesser wing coverts like the back; cheeks, chin, throat, lores, eyelids, and supercilium extending from the bill to the nape, and whole under surface of the body yellowish white; two black bands across the breast, the upper one entire and the lower one interrupted in the middle; median and greater series of wing coverts dark brown with broad yellowish white tips forming two bands across the coverts; quills brown, the 2nd to the 7th primaries with a patch of yellowish white on the outer webs near their bases; all the primaries and secondaries with an abrupt margin of yellowish white near their tips on the outer webs; tertiaries brown, broadly tipped with olive green; tail with two central feathers olive brown like the back, and washed externally with olive; remainder of the feathers blackish, absoletely tipped with white; outermost feathers white, except at the base where it is brown; penultimate feather dark brown, with the terminal third of the inner web white; under wing coverts dull white, washed with olive; axillaries white, washed with olive yellow, irides black; upper mandible dusky brown; lower mandible fleshy white; legs and feet purplish white.

*Length*.—6·3 to 6·6 inches; wing 3·1; tail 2·7; tarsus 0·85; culmen 0·55.

*Hab.*—Eastern Siberia and N. China, ranging in winter into the Indian Peninsula and Ceylon, the Andaman Islands and the Burmese countries (*Sharpe*). It also occurs in Cochin China, the Malay Peninsula, Sumatra and Borneo. In Burmah, Oates says, it is uncommon in Pegu; it was only once met with by Armstrong in the Irrawaddy delta. On the Tenasserim division it appears to be tolerably abundant. In South India it is fairly common on the Neilgherries and in Coonoor, also in Malabar on the Coast. Jerdon procured it at Nellore, and it is said to be not very uncommon about Calcutta, also in Assam. It is quite a forest-loving species, being found in well-wooded localities and in shady orchards. It is usually seen solitary feeding on insects.

#### Gen. *Anthus*.—*Bechst.*

Plumage sombre, generally mottled and lark-like, the feathers of the back with dark centres and pale edges; feet pale; bill straight, stout and shorter than in *Motacilla*; profile of culmen swollen from the centre to the tip. No scutellations on upper part of back of tarsus; the outstretched feet do not reach beyond the tail; 1st to 3rd quills longest; tertials long.

**795. *Anthus trivialis*** (*Linn.*), *Fleming, Br. An.* p. 75; *Yarrell, Br. B.* i. p. 384; *Dresser B. Eur.* iii. p. 309, pl. 132; *Blanf., East. Persia*, ii. p. 235; *Brooks, t. c.* p. 499; *Ball, Str. F.* 1878, ii. p. 240; *Cripps, t. c.* p. 288; *Hume, Str. F.* 1879, p. 103; *Vidal, Str. F.* 1880, p. 69; *Reid, Str. F.* 1881, p. 49. *Alauda trivialis*, *Linn., Syst. Nat.* i. p. 288. *Alauda plumata*, *P. L. S. Mull. Natur. Syst. Anhang*, p. 137. *Pipastes arboreus*, *Bechst. Naturg. Deutschl.* iii. p. 33; *Jerd., B. Ind.* ii. p. 229; *Hume, Ibis*, 1870, pp. 287, 400; *Brooks, J. A. S. Beng.* xli. p. 83; *Hayes Lloyd, Ibis*,

1873, p. 412; *Murray, Str. F.* 1878, ii. p. 109. *Anthus agilis*, *Sykes, P. Z. S.* 1832, p. 91. *Pipastes trivialis*, *Blyth, Ibis*, 1867, p. 31; *Oates, B. Br. Burm.* i. p. 172. *Pipastes plumatus*, *Hume, Str. F.* 1873, p. 202; *id., Nests and Eggs, Ind. B.* p. 383. *Anthus arboreus* (*Bechst.*), *Murray, Vert. Zool., Sind*, p. 170.—THE EUROPEAN OR WESTERN TREE PIPIT.

Head, nape, back and scapulars dusky olive green, the feathers centred dark brown; rump and upper tail coverts duller olive green, with no dusky striæ; chin and throat fulvescent or fulvous white, with dark brown spots on the throat; rest of under surface fulvescent, olive on the flanks, and the under tail coverts albescent; the breast streaked with dark brown; primaries, secondaries and tertiaries dark brown, the primaries narrowly edged on their external webs with pale white; the secondaries and tips of the primaries white, the tertiaries broadly margined with dusky olive; the wing coverts brown, with yellowish white tips; tail brown, the feathers with pale edgings; the outermost feather white, except the basal fourth and margin of the inner web to within one-fifth of the tip; the next all brown, edged and tipped with white. Bill dusky yellowish at base of lower mandible; legs pale brown, irides dark brown.

*Length*.—6·5 inches; wing 3·5; tail 2·5; bill at front 0·43; tarsus 0·8.

*Hab.*—Europe and India generally to Nepaul; Sind, Punjab, N.-W. Provinces, Oudh, Assam and British Burmah, Central and South India, Beloochistan, S. and N. Persia, Afghanistan, Kutch, Kattiawar, N. Guzerat, Jodhpore, and the Deccan. It is found over all India nearly during winter arriving early in October and leaving about the end of April. Burmah appears to be the extreme limit of this species. Some of the birds remain in the Himalayas, which is about the most southern limit in Asia. *Hume*, in "Nests and Eggs," speaks of the nidification of *P. agilis*, *Sykes*, and *P. plumatus*, *Mull.*, both of which are now considered to be the same as *Anthus trivialis*. He says, all he knows of the nidification of this species (*P. agilis*) is that a loose grass nest was sent to him containing a single egg with a male bird shot off the nest in Upper Kooloo. The nest; he says, was found on the snowy range beyond S<sup>o</sup>, at an elevation of probably 11,000 feet. The egg is a moderately brown oval, slightly compressed towards one end, has a greyish white ground, and is thickly and minutely speckled and spotted all over with two different shades of rather pale dingy purple. The description of the egg of *P. plumatus* is much the same as the above.

**796. *Anthus maculatus*, *Hodgs., Icon. ined. in Br. Mus. Passeres*, pl. 118A.; *Bp. Consp.* i. p. 248; *Brooks, Str. F.* 1876, p. 278; *Ball Str. F.* 1877, p. 417; *id., Str. F.* 1878, ii. p. 219; *Hume, Str. F.* 1879, p. 103; *Reid, Str. F.* 1881, p. 48; *Butler, Cat. B. Sind, &c.*, p. 41; *Davison, Str. F.* 1883, p. 396. *Anthus agilis* (*non Sykes*), *Ferd., B. Ind.* ii.**

p. 229, No. 596; *Gould, B. Asia*, iv. pl. 65; *Adam, Str. F.* 1873, p. 384; *Hume, Str. F.* 1874, p. 499; *id., Nests and Eggs, Ind. B.* p. 382. *Pipastes maculatus*, *Hume, Ibis*, 1870, p. 287; 1871, p. 35; *Blyth and Wald., B. Burm.* p. 96; *Armstrong, Str. F.* 1876, p. 330; *Butler, Str. F.* 1877, p. 230; *Davidson and Wenden, Str. F.* 1878, ii. p. 84; *Murray, t. c.* p. 109; *Scully, Str. F.* 1879, p. 316; *Oates, B. Br. Burm.* i. p. 171. *Pipastes agilis*, *Blanf., J. A. S. Beng.* 1872, p. 60.—THE EASTERN TREE PIPIT.

Whole upper plumage rich olive brown; the head with distinct brown broad mesial streaks; the back the same; rump and lower back entirely uniform; lesser wing coverts like the back; median and greater series dusky brown, externally olive brown, the median series tipped with yellowish white; tail dark brown, the outer pair with a long diagonal patch of white from base to tip; the next tipped with white, which and the others are all margined with olive brown on the outer web; eyelid and a broad eyebrow fulvous, becoming whiter above; the ear coverts are white and the lores fulvous brown; cheeks, chin, throat and breast, rich fulvous; a moustachial streak from the sides of the throat to the breast, which is marked with numerous oval black spots; flanks dull fulvous, streaked with brown; under surface of the body white; under wing coverts smoky brown, edged with olive yellow.

In winter the fulvous colour of the head changes to fulvescent white. Bill bluish black; yellowish at the angle of the lower mandible; iris brown; legs and feet flesh colour.

*Length.*—6 to 6·5 inches; wing 3·2 to 3·5; tail 2·5; tarsus 0·85; culmen 0·55.

*Hab.*—Eastern Asia, from Japan and Eastern Siberia as far as the Yen-cay, wintering in the plains of India, the Burmese countries and Cochin-China. In Northern India and the Himalayas its occurrence is recorded as from Nepaul, Mogul Serai, Cawnpore, Behar, Ootacamund, and Bhootan, also the Khasia hills, and in Burmah from Pegu, Karenne, Poonsee (Kakhyen hills), Bassein, Tenasserim and Bhamo. It is found all over India nearly as a winter visitant, arriving in October and leaving in April. In Burmah, Oates says, it is found very abundantly in all the wooded tracts and gardens in small flocks under the shade of trees, feeding on insects and seeds.

**797. *Anthus nilghiriensis*, Sharpe, Cat. B. Br. Mus. x. p. 550.** *Anthus rufescens*, *Ferd., Madr. Journ.* xi. p. 34 (*nec. Temm.*). *Anthus montanus* (*nec. Koch.*), *Blyth, J. A. S. B.* xvi. p. 435 (*Ex. Ferd. Mss.*); *Hume, Str. F.* 1878, ii. p. 461; *id. Str. F.* 1879, p. 103; *Davidson, Str. F.* 1883, p. 397. *Pipastes montanus*, *Ferd. B. Ind.* ii. p. 230, No. 598; *Hume, Nests and Eggs, Ind. B.* p. 383; *Fairb., 1877*, p. 407.—THE NILGHERRY TREE PIPIT.

Above light sandy buff, the upper surface of the body mesially streaked with black; rump more uniform, the mesial dark streaks being less distinct

and not numerous; wing coverts olive brown, also mesially streaked with dark brown; primary coverts edged with fulvous; quills blackish, edged with pale olivaceous; the first primary with buffish white; fifth primary shorter than the first and equal in length to the long secondaries; 2nd to 5th emarginate; upper tail coverts and tail blackish edged with paler brown, the tail with pale sandy buff; outer tail feathers smoky brown, whitish at tip; the inner web with an oblique mark of dark brown; third feather with an irregular wedge-shaped spot of white at the end of the inner web; supercilium extending from the base of the nostril to above the ear-coverts white; ear-coverts and feathers below the eye reddish brown; lores blackish; cheeks rich sandy buff brighter on the throat and foreneck as well as the sides of the body; foreneck, chest and sides streaked with black; under tail coverts rich sandy buff; axillaries paler sandy buff, washed with olive near the edge of the wing; bill blackish; legs pale brown; irides dark brown.

*Length*.—6·5 inches; wing 2·95; tail 2·7; tarsus 0·95; culmen 0·55. Hind claw stout and strongly curved, shorter than the hind toe.

*Hab*.—Hills of Southern India (the Neilgherries), where only it is found and is a permanent resident. Breeds during May at an elevation of about 6,500 feet, making a shallow cup of grass loosely put together and lined with finer grass. According to Davison (Hume) the nest is placed under a tuft of grass or bush on the side of a hill. The eggs, two or three in number, are pale dingy greenish brown, thickly mottled with a darker shade. In length the eggs vary from 0·79 to 0·89, and in breadth from 0·59 to 0·62.

**798. *Anthus sordidus*, Rupp. Neue, Wirb. Aves, p. 103, pl. 39, fig. 1. *Anthus similis*, *Ferd.*, *Madr. Journ.* xi. p. 36; *id.* *Ill. Ind. Orn.* pl. 45. *Agrodroma cinnamomea*, *Ferd.*, *B. Ind.* ii. p. 235. *Agrodroma similis*, *Hume, Nests and Eggs, Ind. B.* p. 385; *id.*, *Str. F.* 1873, p. 203; *Fairb.*, *Str. F.* 1876, p. 260; *Butler, B. Bom. Pres.* p. 56; *Davison, Str. F.* 1883, p. 397. *Agrodroma sordida*, *Antin and Salvad, Viagg. Bogos*, p. 110; *Buller, Str. F.* 1878, ii. p. 183; *Hume, Str. F.* 1879, p. 103; *Reid, Str. F.* 1881, p. 49; *Davidson, Str. F.* 1882, p. 311.—The RUFOUS ROCK PIPIT.**

Above dusky brown, the feathers edged with pale ferruginous; upper tail coverts the same, much lengthened; lesser wing coverts like the back; median and greater series dark brown, broadly edged with pale ferruginous; primaries and their coverts dark brown narrowly edged with fulvescent; tail dark brown, margined with pale ferruginous or fulvous, the outer web of the outermost being entirely of this color, the penultimate feather with a triangular spot of ferruginous at the tip; supercilium pale ferruginous; ear coverts the same but tipped with dusky; chin fulvescent white; cheeks and throat, also the under surface of the body, pale ferruginous; the foreneck and breast streaked with triangular dusky spots, and a few spots along the mous-

tachial line; flanks unstreaked; thighs and under tail coverts deep sandy buff; axillaries and under wing coverts dusky with sandy margins.

*Length*.—7 to 8 inches; wing 3·4 to 3·7; tail 2·85 to 3·05; tarsus 1 to 1·1; culmen 0·65; hind claw strongly curved, primaries emarginate, 2·3 × 4·5; equal 3rd and 4th.

*Hab*.—North-Eastern Africa as far as the Upper Nile regions and occurring throughout North-Western India as far as the Neilgherries (*Sharpe*), but everywhere sparingly. Jerdon says he obtained it on the Segoor Pass of the Neilgherries, where they were found seated on rocks by the roadside and occasionally descending to the road to feed on insects. The British Museum has two specimens from Coonoor. Hume, who calls this species the Neilgherry Tit-Lark, says it is a very rare bird even on the Neilgherries. The eggs obtained by Dr. Jerdon, Hume says, closely resemble those of *Alauda Malabarica*, but are more glossy. They are moderately elongated ovals, somewhat compressed and pointed towards one end with a creamy white ground, densely, but very minutely freckled and speckled all over with very pale yellowish brown and pale purplish grey. The eggs were taken on the 16th May and measured 0·85 × 0·65.

**799. *Anthus Jerdoni* (*Finsch.*), *Sharpe, Cat. B. Br. Mus.* x. p. 562. *Agrodroma Jerdoni*, *Finsch., Trans. Z. S.* vii. p. 241; *Hume and Henders., Lahore to Yark.*, p. 227; *Hume, Nests and Eggs, Ind. B.* p. 386; *Brooks, Str. F.* 1875, p. 252; *Hume and Butler, Str. F.* 1875, p. 491; *Butler, Str. F.* 1877, p. 230; *Wardlaw-Ramsay, Ibis*, 1880, p. 61. *Corydalla griseo-rufescens*, *Hume, Ibis*, 1870, p. 286. *Agrodroma sordida* (*nec Rupp.*), *Jerd., B. Ind.* ii. p. 236; *Butler, Cat. B. Sind*, p. 42; *Murray, Hdbk. Zool., &c., Sind*, p. 169; *id., Vert. Zool., Sind*, p. 173.—THE BROWN ROCK PIPIT.**

Head, nape, back, scapulars, rump, and upper tail coverts dull earthy brown, the feathers edged paler; wings and tail darker brown than the upper parts; supercilium fulvous or fawn coloured; a faint brown stripe from the base of the lower mandible down the sides of the throat; primaries, secondaries and tertiaries as in the last, but edged with rufescent; first primary short, dark brown, outermost feathers rufescent on their outer webs, and for about an inch and a quarter obliquely on their inner webs at the tip; rest of the feathers dark brown, the next dark brown, except at the tip and for a short distance ( $\frac{1}{4}$  of an inch) along the shaft; chin and throat whitish; rest of under surface bright rufescent fawn; the breast with a few indistinct streaks. Bill dusky; lower mandible yellowish, except at tip; legs yellowish.

*Length*.—7·75 to 8 inches; wing 4; tail 3·5; bill at front 0·5.

*Hab*.—India generally to the Himalayas, Sind, Punjab, N.-W. Provinces, N. Guzerat, Deccan, Beloochistan and Persia. Breeds in the Punjab and N.-W. Provinces from May till the middle of July low down the hill side. Captain Marshall, who took its eggs at Murree, says the eggs are not unlike

those of other species of the family. Hume says, the eggs sent him by Captain Marshall are barely, if at all, separable from those of *Oreocorys sylvanus*. They are moderately broad, fairly regular ovals, somewhat compressed or pointed towards one end; the shells are compact but almost entirely devoid of gloss, brownish or greyish white, profusely speckled, spotted and streaked, and in places blotched and clouded with sienna brown or pale inky purple; the markings are thickly set, but most dense at the large end.

**800. Anthus Richardi.** *N. Dict. d'Hist. Nat.* xxvi. p. 491; *Temm. Pl. Col.* iii. pl. 101; *McGill. Br. B.* ii. p. 199; *Hume, Ibis*, 1869, p. 120; *Blanf. East, Persia*, ii. p. 236; *Seebohm, Ibis*, 1878, p. 343; *Sharpe, Cat. B. Br. Mus.* x. p. 564. *Corydalla Richardi*, *Vigors, Zool. Journ.* ii. p. 397; *Bp. Consp. Av.* i. p. 247; *Kelaart, Prod. Faun. Zeyl. Cat.* p. 121; *Jerd., B. Ind.* ii. p. 231, No. 599; *Blanf., Ibis*, 1870, p. 466; *Holdsw., P. Z. S.* 1871, p. 458; *Hume, Str. F.* 1874, p. 239; *Ball, t. c.* pp. 416, 479, 496. *Blyth and Wald., B. Burm.* p. 95; *Armstrong, Str. F.* 1876, p. 330; *Hume and Davison, Str. F.* 1878, p. 365; *Ball, Str. F.* 1878, ii. p. 220; *Cripps, t. c.* p. 288; *Legge, B. Ceylon*, p. 621; *Hume, Str. F.* 1879, p. 103; *Oates, B. Br. Burmah* i. p. 166. *Cichlops monticolus*, *Hodgs., Icon. ined. in Br. Mus. Passeres*, pls. 121, 124, fig. 1. *Corydalla sinensis*, *Bp. Consp.* i. p. 247; *David et Oust., Ois Chine*, p. 311.—RICHARD'S PIPIT or the LARGE MARSH PIPIT.

Upper surface of the body, including the scapulars and wing coverts, brown, the feathers edged with fulvous; lower back and rump more uniform, the feathers centred with dusky; primaries, secondaries and tertiaries brown, the primaries narrowly, and the secondaries and tertiaries broadly edged with fulvous; the first primary ashy white externally; tail dark brown, with ashy fulvous margins; the outermost pair of feathers nearly entirely white, the next with a large triangular patch of white on the inner web; supercilium, chin, cheeks, throat and axillaries fulvous white; ear coverts sandy rufous or fulvous brown; under surface of the body pale fulvous, darker on the flanks, thighs and vent, and striated on the breast; lower throat and foreneck with dusky brown. Bill brown; yellowish at the base of the lower mandible; irides brown; legs flesh colour.

*Length*.—7 to 8 inches; wing 3·6 to 3·9; tail 3·4; tarsus 1·2; culmen 0·6.

*Hab.*—Central and Eastern Asia where it breeds, migrating to India and Ceylon in winter, also into Southern China, the Moluccas and the Burmese countries; occurring also in parts of Europe. It is found from Nepaul and the Himalayas to the extreme South; more rare, however, in Southern India and the Carnatic. Jerdon adds that it is tolerably abundant in Lower Bengal, Ceylon and countries to the eastward. According to Oates it is excessively common in all the vast plains in the south of Pegu. It has been procured in Tonghoo and in Karenne also throughout Tenasserim and the Thoungyeen Valley. It is as common in the Malay Peninsula and has been

got in Siam. It abounds in all the rice-fields and swampy lands covered with grass, and numbers are generally found together, but this fact would not admit of them being called gregarious. Nothing of its nidification in India is yet known.

**801. *Anthus striolatus*, Blyth, J. A. S. B. xvi. p. 435; Bp. Consp. i. p. 248; Layard, Ann. and Mag. Nat. Hist. xii. p. 268; Blansf., J. A. S. Beng. xli. p. 61; Sharpe, Cat. B. Br. Mus. x. p. 568. Corydalla striolata, Kelaart, Prodr. Fauna Zeyl. Cat. p. 121; Ferd., B. Ind. ii. p. 232, No. 601; Holdsw., P. Z. S. 1872, p. 453; Brooks, Str. F. 1873, p. 369; Walden, Ibis, 1874, p. 140; Ball, Str. F. 1874, p. 417; Hume and Davison, Str. F. 1878, p. 366; Legge, B. Ceylon, p. 628; Hume, Str. F. 1879, p. 103; Butler, Cat. B. Bom. Pres. p. 56; Oates, B. Br. Burmah i. p. 167. Cichlops thermophilus, Hodgs., Icon. ined. Passeres, pl. 122A.—BLYTH'S PIPIT.**

Like *Anthus Richardi*, except that the triangular patch of white on the inner web of the penultimate tail feathers in *Anthus Richardi* is about two inches in length, or never less than an inch and a half, but in this species it is never quite an inch; the tarsus is also shorter, and the markings on the breast more numerous.

*Length*.—7 to 8 inches; wing 3·5; tail 3; tarsus 1·05; culmen 0·6.

*Hab*.—Throughout India and Ceylon, occurring as far west as Sind. It has also been met with in Burmah and the Andaman Islands. Jerdon records it from Saugor in Central India, Nellore and Darjeeling. It is also stated to be found in South India generally (Madras, Travancore), also in Dinapoor, Sultanpore (Punjab), Sikkim and Nepaul. Visits India in September, and leaves again by the 15th April.

**802. *Anthus campestris* (Linn.), Bechst. Naturg. Deutschl. iii. p. 722; Blansf., East Persia ii. p. 237. *Anthus rufescens*, Temm., Man. d'Orn. i. p. 267; Gould, B. Europe, p. 18. *Agrodroma rufula*, Ferd., Madr. Journ. p. 34. *Agrodroma campestris*, Bp., Consp. Av. p. 247; Ferd. B. Ind. ii. p. 234, No. 602; Hume, Ibis, 1871, p. 35; Adam, Str. F. 1873, p. 384; Butler and Hume, Str. F. 1875, p. 491; Hume, Str. F. 1879, p. 103; Davidson, Str. F. 1882, p. 310; Murray, Hdbk. Zool., &c., Sind, p. 169; id., Vert. Zool. Sind, p. 173.—THE STONE PIPIT.**

Head, nape, back, scapulars, rump and upper tail coverts olive brown with a faint rufescent tinge, the feathers of the head with mesial dark streaks, those of the back very faintly streaked or absent; rump unstreaked; upper tail coverts with dusky shafts; chin whitish; rest of under surface and supercilium pale or rufescent fawn, albescent on the vent and under tail coverts; a brown stripe from the base of the lower mandible down the sides of the throat, and another from the gape; primaries and secondaries very pale brown, edged externally with pale or rufescent fawn; the secondaries tipped whitish; tertiaries brown, with broad fulvous or pale fawn margins; wing coverts brown,

broadly tipped and edged with the same colour ; tail dark brown, the feathers edged fulvous, the centre feathers broadly edged with fawn, the outermost feather on each side white, basally dark shafted, and margined on the inner web with brown, the next, edged on the outer web, tipped, and for about an inch running up the inner web, whitish ; the shaft and rest of the feathers brown. Bill horny ; lower mandible yellowish ; legs yellowish.

*Length*.—7 to 7.25 inches ; wing 3.6 ; tail 2.75 to 3 ; tarsus nearly 1 ; bill at front 0.5.

*Hab*.—Central and Southern Europe, N. and W. Africa, Central and Southern India, Sind, Punjab, N.-W. Provinces and Bengal ; also Beloochistan, Persia, Afghanistan, Kutch, Kattiawar, Jodhpore, Jeypore, N. Guzerat, Concan and Deccan. Winters in the plains of India, arriving in September and departing in April. It affects barren, open, stony land.

**803. *Anthus rufulus*, Vieill, *N. Dict. d'Hist. Nat.* xxvi. p. 494 ; Blyth, *J. A. S. B.* xvi. p. 437 ; *Bp.*, *Consp. Av.* i. p. 248 ; Layard, *Ann. and Mag. Nat. Hist.* xii. p. 268. *Anthus cinnamomeus*, *Rupp.*, *Neue Wirb.* p. 103 ; Sharpe, *Cat. B. Br. Mus.* x. p. 574. *Anthus malayensis*, *Eyton*, *P. Z. S.* 1839, p. 104 ; Blyth, *J. A. S. B.* xi. p. 797 ; Hume, *Str. F.* 1874, p. 497 ; Tweed., *Ibis*, 1877, p. 310 ; Hume and Davison, *Str. F.* 1878, p. 366 ; Hume, *Str. F.* 1879, pp. 65, 103. *Agrodroma agilis*, *Ferd.*, *Madr. Journ.* xi. p. 33. *Cichlops ubiquitarius*, *Hodgs.*, *Icon. ined. in Br. Mus. Passeres*, pl. 122A. *Anthus caffer*, *Sundev.*, *Cefv. K. Vet. Akad. Forh. Stockh* ; Layard, *Ibis*, 1869, p. 368. *Anthus raalteni*, *Bp. Consp. Av.* i. p. 248. *Corydalla rufula*, *Kelaart*, *Prodr. Fauna. Zeyl. Cat.* p. 121 ; *Ferd.*, *B. Ind.* ii. p. 232 ; *Blanf.*, *Ibis*, 1880, p. 469 ; *Holdsw.*, *P. Z. S.* 1872, p. 458 ; Hume, *Nests and Eggs*, *Ind. B.* p. 384 ; *Brooks*, *Str. F.* 1873, p. 359 ; *Ball*, *Str. F.* 1874, p. 416 ; Hume *t. c.* p. 497 ; Blyth and Walden, *B. Burm.* p. 96 ; *Fairb.*, *Str. F.* 1876, p. 260 ; *Armstrong*, *t. c.* p. 330 ; *Bourd.*, *t. c.* p. 401 ; *Fairb.*, *Str. F.* 1877, p. 407 ; *Legge*, *B. Ceylon*, p. 625 ; Hume, *Str. F.* 1879, p. 103 ; *Vidal*, *Str. F.* 1880, p. 69 ; *Reid*, *Str. F.* 1881, p. 49 ; *Davidson*, *Str. F.* 1882, p. 310 ; *Oates*, *B. Br. Burm.* i. p. 168 ; *Davison*, *Str. F.* 1883, p. 397 ; *Scully*, *Str. F.* viii. p. 317. *Corydalla rufulus*, *Murray*, *H'dbk.*, *Zool.*, &c., *Sind*, p. 160 ; *id.*, *Vert. Zool. Sind*, p. 172.—THE INDIAN TIT LARK.**

Head, nape, back, scapulars and upper tail coverts olive brown, the feathers with dark mesial streaks ; rump unstreaked pale olive ; supercilium fulvous white ; chin white ; throat, breast and rest of under surface, including the under wing coverts fulvous white, deeper on the breast and sides of the throat, the feathers of which are centred darker ; primaries, secondaries, tertiaries and wing coverts brown ; the primaries slightly paler brown and edged externally with fulvous white ; the secondaries edged with light olive brown and tipped whitish ; the tertiaries broadly edged externally with pale olive or fawn brown, all, except the innermost tertiaries, fulvous and basally whitish on their inner



webs; tail dark brown, the two centre feathers shorter than the others, pale brown and margined narrowly with pale olive; the outermost feathers on each side white, except a narrow margin on the inner web, which is brown; the next feather also white, with a dark shaft, and a wider brown margin on the inner web. Bill dusky, yellowish at base of lower mandible; irides brown; legs pale yellowish brown.

*Length*.—6·5 to 7 inches; wing 3 to 3·25; tail 2·5; tarsus 1; bill at front 0·4

*Hab*.—The whole of Southern Africa, extending up the eastern side of that continent to N.-E. Africa, and occurring even in Egypt; also throughout India and Ceylon, the Burmese countries and Malayan Peninsula, extending to Java, Sumatra, Borneo and the Phillipines. (*Sharpe*.) In India it is found in Sind, Punjab, N.-W. Provinces, Bengal, Assam, British Burmah and Nepaul; also Beloochistan, Afghanistan and Eastern Turkestan. Common in the Concan and Deccan; breeds in Sind during April and May. Eggs 3—4, of a greenish colour, with numerous brown mottlings all over, chiefly at the larger end. It is one of the most common birds, and is abundantly spread over all India, except the higher elevations. In Burmah as elsewhere it is partial to open grass plains and dry paddy fields.

**804. *Anthus cervinus* (Pall.),** *Naum. Vogt. Deutschl.* iii. pl. 85, fig. 1; *Gould, B. Asia*, iv. p. 66; *Hume, Ibis*, 1871, p. 35; *Ball, Str. F.* 1873, p. 74; *Hume, t. c.* p. 310; *Hume, Str. F.* 1874, pp. 239, 479; *Blyth and Wald., B. Burm.* p. 96; *David and Oust., Ois Chine*, p. 306; *Hume and Davison, Str. F.* 1878, p. 367; *Seebohm, Hist. Br. B.* ii. p. 229; *Oates, B. Br. Burm.* i. p. 169. *Motacilla cervina*, *Pall., Zoogr. Rosso. Asiat.* i. p. 511.—The RED-THROATED PIPIT.

*Male in summer plumage*.—Whole upper surface of the body, including the wing coverts and tertiaries dark brown, each feather edged with fulvous; superciliary streak, cheeks, chin, throat and breast vinous pink, the breast and sides of the breast streaked with brown; lores and ear coverts vinous brown; quills brown, narrowly edged with fulvous white; tail dark brown, the outermost pair of feathers with a large diagonal streak of white, extending from the base to the tip; the next pair faintly tipped with white; axillaries buff; under surface of the body pale rufescent, streaked on the flanks with brown; under tail coverts deeper rufescent.

The *female in summer plumage* is similar to the male, except that the throat alone is vinous; the rest of the under surface of the body from the foreneck downwards being pale rufescent or sandy buff, the foreneck, breast and flanks profusely spotted with blackish centres to the feathers, linear on the sides and flanks.

The winter plumage of both sexes is the same as the summer plumage of the female, except that the vinous flush on the foreneck is absent in most birds, and the throat is like the abdomen. Bill dusky above, yellowish beneath; irides brown.

*Length*.—6·4 to 6·8 inches; wing 3·3; tail 2·4; tarsus 0·9; culmen 0·55 to 0·6. The females are smaller.

*Hab.*—Throughout Northern Europe and Siberia, above the limits of forest growth, where it is said to breed. Occurs in England and Western Europe on migration. Winters in Egypt, N.-E., Africa, Beloochistan, Persia and North-Western India, but principally in Southern China and the Burmese countries, extending at least to Borneo. Its northern range to the eastwards appears to be Kamtschatka and as far as Behring Island (*Sharpe*.) Oates says it is a winter visitor to Burmah; abundant from October to April in Southern Pegu, and equally so throughout Tenasserim and the Thoungyeen Valley, where Captain Bingham met with it. It is said to frequent the open parts of the country, on waste lands and the margins of rivers.

**805. *Anthus rosaceus*, Hodgs., *Icon. ined in Br. Mus. Passeres*, pl. 118; *Sharpe, Cat. B. Br. Mus.* x. p. 589; *Horsf. and Moore, Cat. B. E. I. Co. Mus.* i. p. 357; *Hume, Ibis*, 1870, p. 287; *id., Nests and Eggs, Ind. B.* p. 386; *Brooks, Str. F.* 1875, p. 252; *Blyth and Wald., B. Burm.* p. 96; *Hume, Str. F.* 1879, p. 103; *Scully, t. c.* p. 317; *Oates, B. Br. Burm.* i. p. 170. *Anthus cervinus* (*nec. Pall.*), *Jerd., B. Ind.* ii. p. 237, No. 605.—THE VINOUS-THROATED PIPIT.**

*Adult male in breeding plumage.*—Above ashy, the feathers streaked black mesially, the head more narrowly, the hindneck less distally. Deccan. back very broadly, the latter and the mantle mottled with edged faintly tinged with olive; rump more uniform olive to dusky brown, edged with ashy. washed with olive yellow edged with fulvous dark brown.

*The adult female in breeding plumage* is similar in colour to the male, but with remains of a few blackish streak on the foreneck.

*Hab.*—The Himalayas, from Afghanistan to Bhootan and the Khasia hills, extending into Moupin and Kansu in China. Winters in the plains of India. It has been found in Cachar, Gilgit, Etawah, Kumaon, Darjeeling, Nepaul, Bhootan and the Khasia hills. It is believed to breed in Gurhwal, but the find of the eggs and nest has not been properly authenticated.

**806. *Anthus spiolella* (Linn.), *Faub. et Barth-Lapomm. Rich. Orn.* p. 285; *Sharpe, Cat. B. Br. Mus.* x. p. 593. *Alauda spiolella*, Linn., *Syst. Nat.* i. p. 288; *Gm., Syst. Nat.* i. p. 794. *Anthus aquaticus*, *Bechst., Naturg. Deutschl.* iii. p. 745. *Anthus montanus*, *Koch., Syst. baier Zool.* i. p. 179. *Anthus spiolella*, *Bp., Comp. List, B. Eur. and N. America*, p. 18; *Walden, Ibis*, 1869, p. 213; *Hume, Ibis*, 1871, p. 36; *id., Str. F.* 1875, p. 491; *Blanf., East. Pers.* ii. p. 236; *Butler, Str. F.* 1877, p. 230; *Hume, Str. F.* 1878, p. 521; *Murray, Hdbk. Zool., &c., Sind*, p. 169; *id., Vert. Zool. Sind*, p. 170. *Anthus Blakistoni*, *Swinh., P. Z. S.* 1863, p. 90; *Brooks, Ibis*, 1877, pp. 206, 207; *Butler, Str. F.* viii. p. 177; *Murray, Vert. Zool. Sind*, p. 171. *Anthus neglectus*, *Brooks, Ibis*, 1876, p. 501; *Hume, Str. F.* 1877**

202. 345.—The WATER PIPIT.

*In winter plumage* the upper surface is a sort of olive brown, with  
*Surm.* p. 5 of a faintly rufous tinge; the rump unstriated; the head and  
*F.* 1878, p. brown centres to the feathers; there is a well-marked  
p. 169. *Motacilla* *cc.* nostrils over the eye; the coverts and the quills are  
with brownish or olivaceous  
of the body, narrowly margined,  
dged with of greenish or  
marked





almost disappear, though the edges of the feathers are still somewhat paler than the centres, and the whole lower parts become a nearly uniform pale vinaceous colour, without, in what I take to be the perfect plumage, a single spot or streak; in some specimens, which is somewhat less advanced, a few spots still remain on the breast, and one or two streaks on the flanks. In all stages of plumage the axillaries are white, and the greater portion of the wing lining and the lower surface of the quills are pale satin grey.

"*Male, length.*—6·75 to 7·25 inches; expanse 11 to 11·25; wing 3·46 to 3·6; bill at front 0·45 to 0·53; hind toe and claw 0·7 to nearly 0·8.

"*Female, length.*—6·37 to 6·62 inches; wing 3·15 to 3·3; expanse 9·5 to 10·5; bill at front 0·45 to 0·5; hind toe and claw 0·7 to 0·75; legs and feet brown, or dark brown; bill dark horny brown."—*Str. F.* i. p. 204.

'*Hab.*—Central and Southern Europe and N.-W. Africa, Sind, Punjab, N.-W. Provinces, Beloochistan, Persia, Afghanistan and E. Turkestan. In India during winter only

#### Gen. *Oreocorys*.—*Sharpe*.

Bill deep and strong; culmen arched; wings with the first five primaries sub-equal; tail attenuated to a point at the tip; tarsus strong; the upper part behind scutellated.

**807. *Oreocorys sylvanus* (Hodgs.), *Sharpe*, *Cat. B. Br. Mus.* x. p. 622. *Heterura sylvana*, *Hodgs.*, *J. A. S. B.* xiv. p. 556; *Bp. Consp.* i. 279; *Ferd.*, *B. Ind.* ii. p. 239; *Beavan*, *Ibis*, 1868, p. 80; *Ball*, *Str. F.* 1878, p. 207; *Hume*, *Nests and Eggs*, *Ind. B.* p. 387. *Cichloramphus sylvanus*, *Gray*, *Gen. B.* p. 168.—THE UPLAND PIPIT.**

Above brown, the feathers with dark brown mesial centres and pale rufous buff edges; wing coverts blackish, broadly edged with rufous buff; primary coverts the same; tail light brown, edged with fulvous, the outermost feather obliquely white towards the tip of the inner web, and the penultimate feather with a white tip to the inner web; lore and a distinct supercilium dull white; sides of the face dull white; ear coverts rufescent, streaked with buffy white; the sides of the neck with narrow brown streaks; throat dull white, with a narrow black mystacial line; under surface of the body dull white, the breast spotted with dark brown on the flanks and with fulvous on the sides; under wing coverts fulvous with narrow brown shaft lines. (*Sharpe*.) Bill dusky above, yellowish beneath; legs pale cinereous.

*Length.*—6·7 inches; wing 2·9; tail 2·9.

*Hab.*—The Himalayas. Hodgson says exclusively *monticolus*, being found in the uplands of the central region of Nepaul. Adam records it from Cashmere, and Sharpe from Murree.

**Family.—FRINGILLIDÆ.**

Birds with conical bill, usually entire at the tip, the lower mandible generally of the same proportions as the upper, but in some deeper; margin of bill not toothed or indented; wings moderate; tail moderate or short, even, rounded or emarginate; feet fitted for walking on the ground. They are chiefly ground-feeders, and while some may be said to be omnivorous, others feed almost exclusively on grain. They nidificate on trees, holes in rocks, or banks of nullahs and river beds. Plumage generally plain, in some only sandy. They are usually possessed of much intelligence, and there are among them some of the most familiar birds, which are the most appreciable songsters. The gizzard of many is thick and muscular, and in such cases the birds swallow stone, or gravel, to assist the trituration of the seeds they feed on.

**Sub-Family.—COCCOTHAUSTINÆ.**

Bill very stout, otherwise as in the family.

**808. *Coccothraustes humii*.** *Sharpe, P. Z. S.* 1886, p. 97; *id. Cat. B. Br. Mus.* xii. p. 40. *Coccothraustes vulgaris* (*nec. L.*), *Hume, Ibis*, 1869, p. 456; *id. Str. F.* vii. pp. 416, 462.—The PUNJAB GROSBEEK.

Above pale chocolate brown, with a broad ashy grey collar; lower back, rump and upper tail coverts pale cinnamon brown; lesser wing coverts dark brown, nearly black, the median series ashy white, the bases only black; greater coverts blackish brown, externally ashy white, primaries with a large white spot about the middle of the inner webs; sides of the body tawny or orange brown; tail blackish and edged with brown, the middle one cinnamon brown, externally ashy towards the end, and the rest are white tipped; lower abdomen white; crown of head pale cinnamon buff; a narrow black line along the forehead continued as a patch in the loreal region, and along the base of the mandible extending on to the chin and throat, the upper edges of which are shaded with fulvous.

*Length*.—6·75 inches; wing 3·8; tail 2·35; tarsus 0·8; culmen 0·75.

*Hab*.—N.-W. Punjab and Attock.

**Gen. *Mycerobas*.—Hodgs.**

Bill extremely thick, as deep as long, very nearly conic; upper mandible compressed, and slightly bent over, dentate at base. Commissure sinuate.

**809. *Mycerobas melanoxanthus*** (*Hodgs.*), *Bp. Consp. Av.*, p. 505; *Ferd., B. Ind.* ii. p. 386, No. 772. *Coccothraustes melanoxanthus*, *Hodgs., As. Res.* xix. p. 150; *id. J. A. S. B.* xiii. p. 950, pl. fig. 3; *Gould, B. Asia* v. pl. 20; *Bp., Consp. Av.* i. p. 505; *Ferd., B. Ind.* ii. p. 386; *Hume, Str. F.* 1879, p. 107; *Sharpe, Cat. B. Br. Mus.* xii. p. 41.—The SPOTTED GROSBEEK.

Head, neck and upper surface of the body dull slaty black ; lesser wing-coverts like the back, beneath siskin yellow ; base of the primaries, except of the first three or four pure white, forming a conspicuous wing spot ; some of the greater coverts, the shorter primaries, and the secondaries and tertiaries with an oval yellowish white spot near the tip on the outer webs ; upper tail coverts and tail black ; sides of the body black spotted. Bill and feet plumbeous ; irides brown.

*Length*.—8·5 inches ; wing 5·25 ; tail 3 ; bill at front 0·8 ; tarsus 0·75.

The female is a little smaller, has the upper parts like the male, but there is a yellow supercilium, occasionally some of the same colour on the forehead, crown and nape, as also on the upper plumage ; the cheeks too are yellow ; upper ear coverts dark brown ; beneath bright yellow spotted with black, except on the vent and tail coverts ; a dark line from the gape, another from the lower mandible enclosing the chin ; wing as in the male, but with larger spots on the feathers, especially on the wing coverts. The young female is whitish beneath, and on the crown, nape and interscapular region. (*Jerd.*)

*Hab.*—N.-W. Himalayas at considerable elevations, ranging into Sikkim and Munipur. Jerdon procured specimens near Darjeeling ; Hodgson obtained it in Nepal ; and according to Hutton, it comes to Mussoorie in flocks during March and April. He adds that it remains as long as it can get plenty of cherry stones to crack ; when at this operation they are easily detected by the noise. It is also recorded from Chamba, Kotegurh, Simla, Mussoorie, Kumaon, Nepal and Sikkim.

#### Gen. *Pycnoramphus*.—*Hume*.

Bill conic, thick, longer than deep, tumid at base ; the tip of upper mandible bent a little over the lower ; 2nd, 3rd and 4th quills subequal.

**810. *Pycnoramphus icteroides***, *Vigors, P. Z. S.* 1830, p. 8 ; *Blyth, J. A. S. B.* xiii. 1844 ; *Hume, Nests and Eggs, Ind. B.* p. 469 ; *id. Str. F.* 1819, p. 107. *Hesperiphona icteroides*, *Bp. Consp. Av.* p. 505. *Coccothraustes icteroides*, *Vig., Proc. Comm. Sci. and Corr. Zool. Soc.* ; *Hodgson, J. A. S. B.* xiii. p. 950, pl. fig. 5 ; *Gould, B. Asia* v. pl. 22 ; *Jerd., B. Ind.* ii. p. 384.—THE BLACK AND YELLOW GROSBILL.

Head, neck, wings, *thigh coverts*, extreme upper tail coverts and tail black ; no alar speculum ; rest of the plumage rich yellow, inclining to orange on the nape and paler beneath. Bill apple green ; legs fleshy.

The female is dull olivaceous grey, with the back and rump tinged with fulvous and the abdomen and under tail coverts more strongly fulvous or rusty yellow ; quills and tail black. Bill yellow ; legs fleshy.

*Length*.—8 to 9 inches ; wing 5·25 ; tail nearly 4 ; bill at front 1.



*Hab.*—N.-W. Himalayas, extending into Nepaul, but it is unknown further east. Adams states it haunts the pine forests of Cashmere in small flocks. According to Hume, it breeds in the pine forests, south of the first snowy range and west of the Ganges, from 5,000 to 6,000 feet. Murree, Chamba, Kotegurh and Dharamsala are recorded localities of its occurrence.

**811. *Pycnoramphus affinis***, *Blyth, J. A. S. B.* xxiv. p. 179; *Hume, Nests and Eggs, Ind. B.* p. 469; *Sharpe, Cat. B. Br. Mus.* xii. p. 46. *Hesperiphona affinis*, *Blyth, J. A. S. B.* xxiv. p. 179; *Jerd., B. Ind.* ii. p. 385, No. 726; *Gould, B. Asia*, v. pl. 23.—The ALLIED GROSBK.

Very nearly allied to *H. icteroides*; differs in the male having the black portion of the plumage deep and shining instead of dull ashy black; the black of the head extends somewhat lower down, and the interscapularies and axillaries are also black, and the tibial feathers yellow, while the reverse is the case in *H. icteroides*; entire wing, upper tail coverts and tail black; hind neck, upper mandible, lower back and rump orange yellow.

The female differs in having the upper parts olive green, tinged with yellowish on the collar and rump, more brightly so on the lower plumage; wings and tail black; the coverts, secondaries, and tertiaries broadly margined externally with yellow green; crown and ear coverts ashy, passing into pale grey on the chin and throat. Bill bluish in winter, yellow in summer; feet fleshy yellow.

*Length.*—8·8 to 9 inches; wing 4·75; tail 3·5.

*Hab.*—The Alpine Punjab to the Eastern Himalayas; said to be common about Dharamsala, Nepaul, Darjeeling, Sikkim, and Thibet.

**812. *Pycnoramphus carneipes*** (*Hodgs.*), *Hume, Str. F.* viii. p. 108; *Sharpe, Cat. B.* xiii. p. 49. *Hesperiphona carneipes*, *Hodgs., As. Res.* xix. p. 151; *id. J. A. S. B.* xiii. p. 950. *Coccothraustes speculigerus*, *Brandt, Bull. Sci. de l'Acad.* ix p. 110. *Hesperiphona speculigerus*, *Bp. Conspect. Av.* p. 506; *Gould, B. Asia*, v. pl. 21. *Mycerobas carneipes*, *Jerd., B. Ind.* ii. p. 387, No. 728.—The WHITE-WINGED GROSBK.

Head, neck and breast sooty brown; wings and tail dusky with yellowish edgings and a white speculum on the wings; back, wing coverts and tertiaries with olive yellow spots and stripes; lower back and rump greenish yellow, also the abdomen, vent and under tail coverts, the latter sometimes dashed with dusky. Bill and legs fleshy grey; irides brown.

*Length.*—8·75 inches; wing 4·6; tail 3·7 to 4.

*Hab.*—Nepaul and Sikkim. Recorded also from Dharamsala, Gilgit, Mussoorie, Darjeeling, and Thibet.

### Sub-Family.—FRINGILLINÆ.

Bill variable in size and form, more or less conical and thick, short and bulged in some or thick and elongate.

Gen. **Fringilla**.—*Lin.*

Bill a lengthened cone; upper mandible slightly notched near the tip; wings with the first four primaries nearly equal; tail emarginate.

**813. *Fringilla montifringilla* (Linn.),** *Gould, B. Eur.* pl. 188; *Jerd., B. Ind.* ii. p. 412; *Str. F.* vii. p. 465; *id.* 1879, p. 108; *Sharpe, Cat. B. Br. Mus.* xii. p. 179.—THE MOUNTAIN FINCH.

Head, lores, cheeks, sides of neck, back and rump dark brown, the feathers of the latter with pale edges; lesser wing coverts rufous, margined with white; median coverts the same; quills with a white spot; tail black, edged with brownish yellow, the outermost on each side edged at the base with white; chin, throat, breast and flanks rufous; abdomen cinereous or ashy grey. In the winter plumage the back is black, and the feathers of the upper surface are edged with rufous; rump pure white; sides of the head and nape greyish white.

The female differs in having the head grey; and the breast not so rufous as in the male. Bill horny brown; legs fleshy; irides dark hazel.

*Length.*—6 to 6·3 inches; wing 3·75; tail 2·5.

*Hab.*—The Himalayas, in the North-West during winter. Jerdon says it has been obtained in Simla and Afghanistan, and that Hutton observed it at Mussoorie as a rare winter visitant in flocks of *Propasser rhodochrous*. In the Hume collection it is recorded from Kandahar and the Abbottabad Valley.

Gen. **Procarduelis**.—*Hodgs.*

Bill longer and more slender than in either *Propasser* or *Pyrrhospiza*; 2nd, 3rd and 4th primaries subequal; 1st a little shorter.

**814. *Procarduelis nipalensis*,** *Hodgs., J. A. S. B.* xii. p. 955; *id., As. Res.* xix. 157; *Jerd., B. Ind.* ii. p. 405, No. 746; *Hume, Str. F.* 1879, p. 108. *Linota saturata*, *Blyth, J. A. S. B.* xi. p. 192; *Reid, Cat. B. Lucknow, Prov. Mus.* p. 136.—THE DARK ROSE FINCH.

Forehead, a line over the eye to the occiput, chin, throat and abdomen pure blossom-red; neck and breast sooty brown, tinted with dark sanguineous blossom red; above sooty black washed with deep vinous; crown of head the same; quills and tail the same, but tinted on the margins only with the sanguineous hue of the back. Bill brown; irides red brown; legs fleshy brown.

*Length.*—6·5 to 7 inches; wing 3·9; tail 2·75.

The female is olive brown above; from the chin to the breast dirty yellowish; breast to tail white; wings dusky brown; wing coverts and tertiaris externally margined and tipped with dirty yellowish.

*Hab.*—Himalayas, Kumaon, Bhootan, Nepaul and Sikkim. Jerdon says it is a cold weather visitant at Darjeeling, being found there in moderate flocks, feeding on the roads sometimes or among the ferns and brushwood.

**815. *Procarduelis rubescens*, Blanford, P. Z. S. 1871, p. 694, pl. 74; Hume, Str. F. 1873, pp. 14-318; Sharpe, Cat. B. Br. Mus. xii. p. 184.—The PALE ROSE FINCH.**

*Adult male.*—General colour above dark vinous red, the mantle and scapulars with somewhat dusky bases; wing coverts like the back; the greater coverts, bastard wing, primary coverts, and quills dusky brown, edged with rhubarb brown; upper tail coverts like the back; tail dusky brown, edged with dull red; crown of head brighter and more crimson; lores dusky; sides of the face, feathers round the eye, ear coverts, cheeks and under surface of the body rosy crimson; abdomen ashy grey, paler and whiter towards the vent; sides of the body and flanks rosy crimson; under tail coverts ashy grey, edged with greyish white.

The female is brown above, washed with crimson on the rump and lower back and upper tail coverts; cheeks, throat and under surface of the body brown, whitish on the lower abdomen and vent.

*Length.*—5 to 5·2 inches; wing 3·15; tail 2; tarsus 0·7; culmen 0·5.

*Hab.*—Nepaul and Sikkim. Hume's collection contains four specimens from Darjeeling.

#### Gen. *Carduelis*.—Briss.

Bill more lengthened than in the last, conic, compressed, the tip attenuated and acute; gonys straight, ascending; commissure slightly sinuated; wings lengthened, pointed, the first three quills equal; tail moderate, emarginate; feet short, hind claw rather long.

**816. *Carduelis caniceps*, Vigors, P. Z. S. 1831, p. 71; Gould, Cent. Him. B. pl. 32, fig. 1; Royle, Ill. Bot. Him. pl. 8, fig 2; Blyth, Cat. Mus. As. Soc. No. 675; Jerd. B. Ind. ii. p. 408, No. 749; Str. F. iii. 255.—The HIMALAYAN GOLD FINCH.**

Upper surface of the body whitey brown; rump and upper tail coverts white; a narrow band of scarlet continued round the base of the bill to the chin; wings black, with a golden yellow band, and a few spots on the secondaries; tail black; the inner webs of the outermost feathers with a large patch of white and the four centre feathers tipped with white; under surface of the body whitish, the breast and flanks tinged with ashy. Bill carneous, the tip dusky; legs pale brown; irides brown.

*Length.*—5·5 inches; wing 3·25; tail 2·1; bill at front 0·5.

*Hab.*—N.-W. Himalayas; common about Mussoorie and Simla, extending into Afghanistan.

Gen. **Chrysomitris**.—*Boie*.

Bill short, rather broad at the base, compressed at the tip and acute ; culmen flat ; tail forked, other characters as in *Carduelis*.

**817. *Chrysomitris spinoides*** (*Vigors.*), *Gould, Cent. Him. Birds*, pl. 32, fig. 2 ; *Blyth, Cat. B. Mus. As. Soc.* No. 673 ; *Ferd., B. Ind.* ii. p. 409, No. 750 ; *Hume, Str. F.* iii. p. 255. *Hypacanthus spinoides*, *Cat. Mus. Hein. Th.* i. p. 161 ; *Hume, Nests and Eggs, Ind. B.* p. 472 ; *id. Str. F.* 1879, p. 188.—THE HIMALAYAN SISKIN.

Forehead, occiput and back of neck yellow, the rest of the upper surface olivaceous brown ; wings dusky brown, with a few yellowish or greenish olive spots on the wing coverts, and a pale yellow band on the primaries ; tail feathers dusky, the outermost yellow, except the shaft and tip ; beneath yellow, olivaceous yellow on the sides of the breast and flanks.

The female is less bright in colour and has both the upper and lower surface of the body striated. Bill fleshy ; legs fleshy brown ; irides light brown.

*Length*.—5·5 inches ; wing 3·1 ; tail 1·9.

*Hab.*—Throughout the Himalayas. Common at Darjeeling, and also at Mussoorie. Breeds in all the well-wooded hills at elevations of from 4,000 to 7,000 feet. In the neighbourhood of Simla it lays in July and August in trees and bushes. The nest, according to Hume, is a beautiful structure, cups-shaped, woven of the finest grass roots with a good deal of hair interwoven in the interior, and with much moss blended with the exterior. It is a very solid and compact structure. The eggs are usually three in number, and, when fresh, are a delicate slightly greenish white, with an irregular ring. Recorded from Hupali, Ramgunga Valley, Kumaon, Bhimtal, Almora, and Pethoragurh.

**818. *Chrysomitris thibetana***, *Hume, Ibis*, 1872, p. 107 ; *Brooks, Ibis*, 1872, p. 469 ; *Hume, Str. F.* 1877, p. 416 ; *id. Str. F.* 1879, p. 108 *Sharpe, Cat. B. Br. Mus.* xii. p. 226.—THE THIBETAN SISKIN.

*Adult male*.—General colour above dark olive green, the feathers of the head and nape subterminally marked with yellow, and forming a patch ; a narrow yellow line above the base of the bill, extending as a supercilium and enclosing the dusky ear coverts ; feathers immediately round the eye yellow ; cheeks yellow with a dusky stripe behind ; lower back and rump dark greenish yellow washed with olive green, the feathers mesially dark brown ; wing coverts the same, the greater series with pale yellowish white tips ; primary coverts and quills blackish, edged externally with greenish yellow ; the secondaries fringed with whitish at the tips ; throat and under surface of the body yellow ; abdomen white ; sides of the body and flanks washed with greenish yellow, and with long mesial dark brown streaks ; under tail coverts similar.

The female is dull greenish above, the feathers washed with yellow and streaked mesially with dusky; median and greater coverts dusky blackish; broadly tipped with greenish yellow, and forming a double wing bar, otherwise as in the male.

Sides of the breast, sides of the body and flanks broadly streaked with dark brown; thighs ashy; under tail coverts yellow, white at tip and streaked with black.

*Length*.—4·5 to 5 inches; wing 2·75; tail 1·6; tarsus 0·5; culmen 0·4.

*Hab.*—Sikkim; Himalaya Mountains.

Gen. **Callacanthis**.—*Reich.*

Bill shorter than in *Chrysomitris*; wing does not reach to the end of the tail, otherwise as in *Chrysomitris*.

**819. Callacanthis burtoni**, *Gould, P. Z. S.* 1837, p. 90; *id. B. of Asia*, pt. 1, pl. 15. *Fringilla burtoni*, *Gray and Mitch., Gen. B.* ii. p. 371. *Fringilla erythrophrys*, *Blyth, J. A. S. B.* xv. p. 38. *Callacanthis burtoni*, (*Gould*), *Jerd., B. Ind.* ii. p. 407.—THE RED-BROWED FINCH.

Crown of the head, ear coverts, wings and tail brownish black; forehead, supercilium, chin and throat crimson; upper surface of the body ruddy brown, deeper on the rump and upper tail coverts; wings brown, marked with white on the primary and greater coverts, also on the secondaries; outermost tail feathers mostly white towards the tip; the rest, except the middle pair, tipped with white. In summer the under surface of the body becomes crimson. Bill yellow; legs light brown.

*Length*.—7 inches; wing 3·9; tail 2·6.

The female is plain brown above, darker on the crown; supercilium saffron yellow; forehead ochreous; back yellowish brown; the under surface of the body tinged with fulvous.

*Hab.*—N.W. Himalayas, Simla, Kotegurh.

Gen. **Acanthis**.—*Bechst.*

General characters of *Chrysomitris*, claws larger, and equal to the toe.

**820. Acanthis brevirostris**, *Bp. Conspect. List B. Eur. and N. Amer.* p. 34; *Moore, P. Z. S.* 1855, p. 216. *Linaria brevirostris*, *Hume, Str. F.* 1879, p. 108; *id. Str. F.* vii. p. 417.—THE SHORT-BILLED LINNET.

General colour above brown, the feathers blackish in the centre and streaked with white; lower back and rump rosy pink; lesser and median coverts reddish brown; greater coverts blackish, edged with brown and tipped with white; quills black, externally margined with white; head like the back, and similarly streaked; lores, and a broad line over the eye, also the ear coverts, cheeks and throat creamy buff; foreneck and breast ashy whitish, with broad blackish brown centres to the feathers; lower breast and abdomen pure white, also the under wing coverts and axillaries; legs and feet brown, claws dusky; iris brown.

*Length*.—5 inches; wing 2·95; tail 2·4; tarsus 0·6; culmen 0·4.

The female has not the rose colour on the rump as in the male, and the breast is less broadly streaked with dusky.

*Hab.*—Himalayas.

**821. *Acanthis fringillirostris*, Bp. and Schleg. Monogr. Loxiens,** p. 45. *Linaria cannabina*, Dresser, *Ibis*, 1875, p. 242 (pt.); *Blanford, East. Pers.* ii. p. 246; *Hume, Str. F.* 1879, pp. 108, 389; *Bidd., Ibis*, 1881, p. 86.—The FINCH-BILLED LINNET.

Above pale reddish brown, ashy about the hind neck, the mantle with a few nearly obsolete dark shaft lines; the back nearly uniform chestnut; rump paler, edged with rufescent; wing coverts like the back; quills blackish; primaries and *primary coverts* edged with white; secondaries tipped with white; upper tail coverts black, edged with ash colour; tail black, the edges of both webs white; crown of head and nape ashy brown; base of forehead ashy, a crimson patch on the occiput; lores and round the eye buffy white; throat buffy white, with minute brown spots; foreneck and breast bright scarlet; sides of the body and flanks pale reddish brown, mottled with brown centres; lower breast and abdomen dull buffy white; under tail coverts buffish white; under wing coverts and axillaries white.

*Length*.—5·3 inches; wings 3·15; tail 2·25; tarsus 0·65; culmen 0·4.

The female is like that of *A. cannabina*.

*Hab.*—Asia Minor to the Caucasus, and Persia. Found also in Sind and Arabia during winter.

### Gen. *Montifringilla*.—L.

Claws long and slightly curved, the third primary shorter than the first. Other characters as in *Fringilla*.

**822. *Montifringilla adamsi*, Moore, P. Z. S.** 1858, p. 482; *Adams, P. Z. S.* 1859, p. 178; *Gould, B. Asia*, vol. v., pl.; *Ferd., B. Ind.* ii. p. 413; *Str. F.* iv. p. 486; vii. pp. 412, 418; *Hume, Nests and Eggs, Ind. B.* ii. p. 473.—ADAMS' MOUNTAIN FINCH.

Head and upper surface of the body pale grey brown or ash colour; wings brownish black, the greater coverts and secondaries tipped with white; spurious wing white, each feather tipped with brown; two central tail feathers brownish black, the lateral ones narrowly tipped with black; under surface of the body creamy white. Bill, legs, and feet black.

*Length*.—6 inches; wing 3·75; tail 2·5.

*Hab.*—Ladakh. According to Adams it is common on the bare and barren mountains of Ladakh and Little Thibet, and feeds on the seeds of the few plants found in these desolate and dreary-looking mountains. Its cry is like that of a lark, and its habits on the ground very similar. The nest is composed of grass, and generally placed in the long dykes by the Tartars, over their dead.

**823. *Montifringilla ruficollis*, Blanf., *J. A. S. B.* xli. p. 67; Gould, *B. Asia*, vol. v. pl.; *Str. F.* iv. p. 486; vii. p. 420.—The RED-NECKED MOUNTAIN FINCH.**

Forehead whitish, passing into the rather pale umber brown of the head; supercilia white; lores and a line from them passing under the eye black; this line is continued posteriorly over the ear coverts, and its colour changes to dark ferruginous; back umber brown, with dark central dusky streaks to the feathers; rump more ferruginous; wings brown, the first primary with the outer web white, the others with fulvous outer margins,—all with white internal edges and a broad white wing band, visible only in the expanded wing, formed by a white spot on the inner webs of all the primaries except the first four and the whole basal portion of the inner web of the remaining quills, except the last three, which have broad fulvous borders; lesser wing coverts mostly white, with a row of dark spots on the upper series of feathers; angle of wing greyish; upper tail coverts long, pale umber brown, with a fulvous tinge; central tail feathers and the tips of the remainder for about half an inch dark brown with fulvous margins; basal portion of all the tail feathers except the central pair ashy, external web of the outermost white; cheeks, chin and throat white, with two black lines, one from each side of the base of the lower mandible; ear coverts bright ferruginous; sides of the neck the same but a little paler, the rufous tint forming a demi-collar very slightly interrupted; under surface of the body white, tinged with isabelline; iris reddish brown. Bill and legs black.

The female has not the white forehead and the rufescent tinge on the rump; the demi-collar is brown posteriorly and continuous round the front of the neck.

*Length*.—6·75 inches; wing 3·56 to 3·63; tail 2·1 to 2·3; tarsus 0·85; hind claw 0·36; culmen 0·43.

*Hab.*—Himalayas, ranging to Sikkim and Thibet.

**824. *Montifringilla blanfordi*, Hume, *Str. F.* iv. 487; *id.* 1879, p. 108; Sharpe, *Cat. B. Br. Mus.* xii. p. 265.—BLANFORD'S MOUNTAIN FINCH.**

Above uniform sandy brown, the upper tail coverts resembling the back; wing coverts like the back, with sandy edges to the median and greater coverts; bastard wing and primary coverts black, fringed with ashy brown; quills blackish, externally edged with ashy brown; the inner secondaries more broadly margined and tipped with pale sandy; the inner primaries and secondaries white at the base of the inner web, the former also white externally, as well as the first primary; centre tail feathers blackish, edged with white, the remainder having the white increasing externally and towards the end, which are edged with sandy buff and have a large subterminal blackish spot; crown of the head like the back; the occiput, nape, and hind neck more rufous,

forming an indistinct collar commencing behind the eye; forehead white, intersected by a black median streak; lores black, extending in a streak above the eyes and followed by a white eyebrow; eyelids black above, white below like the ear coverts and cheeks, which have a slight tinge of rufous, like the sides of the neck; throat and under surface of body white; chin black; sides of breast, body and flanks fawn brown; thighs and under tail coverts white; under wing coverts and axillaries white; quills below dusky, but white along the inner edge. (*Sharpe.*)

*Length.*—5·7 inches; wing 3·8; tail 2·25; culmen 0·5; tarsus 0·65.

*Hab.*—Sikkim and Thibet. Noted from near Darjeeling.

**825. *Montifringilla sordida*, Stoll. *J. A. S. B.* xxxvii. p. 63; *Hume, Str. F.* 1873, p. 41; *Scully, Ibis*, 1881, p. 597; *Sharpe, Cat. B. Br. Mus.* xii. p. 266. *Propasser Murrayi*, *Blyth, J. A. S. B.* xxxii. p. 458; *Hume, Str. F.* 1876, p. 504. *Fringillauda nemoricola* (*nec Hodg.*), *Horsf. and Moore, Cat. B. E. I. Co. Mus.* ii. p. 492; *Ferd., B. Ind.* ii. p. 414. *Carpodacus Murrayi*, *Gray, Handl. B.* ii. p. 85.—THE HIMALAYAN LARK-FINCH.**

Above brown, the feathers centred with darker brown, those of the mantle and back broadly edged with white; lower back and rump ashy grey; lesser wing coverts sandy brown, centred with blackish; median series the same, and edged with yellowish buff; greater coverts dusky blackish, narrowly tipped with yellowish white, and edged externally with light brown; bastard wing blackish, edged with light brown; primary coverts blackish, with ashy grey bases and conspicuous white edges on the outer web; quills blackish, edged with sandy brown, the inner secondaries with ochreous buff, and conspicuously blackish at the base of the outer web, forming a similar pattern to the inner greater coverts; upper tail coverts blackish, broadly tipped with white; tail feathers dark brown, edged with sandy buff; crown of the head, like the back, sandy brown and mottled with black centres; hind neck uniform ashy brown; lores ashy; eyelids and supercilium pale sandy buff; ear coverts and cheeks pale ashy brown, slightly streaked with dusky centres; throat and under surface of the body pale ashy brown, the feathers edged with greyish white on the lower breast and sides of the body; breast rather more ashy; abdomen whitish; thighs pale ashy; under tail coverts white mottled with dusky blackish centres; upper mandible brown; lower brownish fleshy; legs, feet and claws blackish brown; iris cinnabar-red. (*Sharpe.*)

• *Length.*—6 inches; wing 3·85; tail 2·2; tarsus 0·75; culmen 0·5.

*Hab.*—N.-W. Himalayas, as far as Kumaon; also Afghanistan. Recorded from Kashgar, Gilgit, Chamba, the Sutlej Valley, and Simla. Nothing is known of its habits.

**826. *Montifringilla nemoricola*, Hodg., *As. Res.* xix. p. 158; *id. Icon. ined. in Br. Mus. Passeres*, pl. 288; *Bp. Consp.* i. p. 538; *Hume, Str.***



*F.* 1873, p. 41; *Hume, Str. F.* 1879, p. 108; *Blyth, J. A. S. B.* xiii. p. 954. *Leucosticte nemoricola*. *Blyth, J. A. S. B.* xxiii. p. 213.—THE SIKKIM LARK-FINCH.

Very similar to *M. sordida*, but differs in being larger and in having the wing coverts tipped and edged with pure white, and the axillaries tinged with sulphur yellow or orange. Bill brown, the base paler; lower mandible yellowish; feet and claws brown. (*Sharpe*.)

*Hab.*—Eastern Himalayas, from Nepal to Bhootan, extending to the mountains of Moupin and Kokonoor in Western China. (*Sharpe*.) Recorded from Nepal and Native Sikkim, Darjeeling and Bhootan.

**827. *Montifringilla brandti***, *Bp. Consp.* i. p. 537. *Montifringilla hæmatopygia*, *Gould, P. Z. S.* 1857, p. 114; *id. B. Asia*, v. pl. 3; *Hume and Henderson, Lab. to Fark.* p. 261; *Scully, Str. F.* 1876, p. 171. *Leucosticte hæmatopygia*, *Salvad., P. Z. S.* 1868, p. 580; *Hume, Str. F.* 1879, p. 108.—BRANDT'S MOUNTAIN FINCH.

Mantle and upper back sooty brown, streaked with blackish brown; scapulars ashy grey with dusky shaft stripes; lower back and rump dusky brown, the feathers edged with rosy at the tips; lesser and median coverts ashy grey, with dusky shaft lines and hoary edges; primary coverts and quills dusky blackish, edged with white, more broadly so on the secondaries; upper tail coverts pale brown, with whitish edges; tail blackish brown, edged with white; crown of head and neck sooty black, also the lores and feathers round the eye as well as at the base of the bill; ear coverts and sides of the hinder crown dark ashy brown; cheeks and throat the same; rest of under surface of the body ashy grey, with dusky shaft lines to the breast feathers; lower abdomen white; sides and flanks ashy grey; under tail coverts whitish, with dusky shaft lines; under wing coverts and axillaries white. (*Sharpe*.) Bill black in summer, dusky brownish in autumn, yellow at base; legs, feet and claws black; iris brown. (*Scully*.)

*Length*.—7 inches; wing 4·5; tail 3·1; tarsus 0·8; culmen 0·45.

*Hab.*—Himalayas, from Sikkim to Kulu and Cashmere.

### Gen. *Rhodopechys*.—*Cab.*

Bill rather swollen at base; culmen gently curved; wings do not reach the tip of the tail; nostrils covered by bristles, wings with a patch of red.

**828. *Rhodopechys sanguinea***, (*Gould*), *Cab. Mus. Hein. Th.* i. p. 157; *Gould, B. Asia*, v. pl. 28. *Fringilla sanguinea*, *Gould, P. Z. S.* 1837, p. 127. *Erythrospiza phœnicoptera*, *Bp. Comp. List B. Eur. and N. Amer.* p. 34. *Erythrospiza sanguinea*, *Blanf., East Pers.* ii. p. 252; *Dresser, B. Eur.* iv. p. 91, pl. 197; *Hume, Str. F.* 1879, p. 108.—THE RED-WINGED ROSE-FINCH.

Crown of the head black, forming a cap, the feathers of the forehead minutely tipped with rosy; lores and feathers round the eye bright rosy; eyebrow a little paler rosy, sandy brown posteriorly; ear coverts, cheeks and throat sandy brown with black streaks along the shafts, forming large spots on the foreneck; upper surface of the body chocolate brown; the mantle and upper back mottled with blackish; lower back sandy brown; rump and upper tail coverts rosy, the longer feathers of the latter black, edged with rosy; median and greater wing coverts brown, edged with rosy; primary coverts and quills black, edged with bright rosy; secondaries narrowly tipped with white, all the quills with white concealed bases; outer tail feathers white, with black shafts; centre feathers black, edged with rosy, their bases white; under surface of the body creamy white, tinged with rosy, the abdominal region a little paler; sides of the body sandy brown with narrow central streaks of brown; axillaries white, edged with rosy. (*Sharpe*.) Bill yellow, dusky towards the tip of the upper mandible; claws and feet blackish.

*Length*.—6 to 6·2 inches; wing 4·1; tail 2·2; tarsus 0·75; culmen 0·55.

The adult female is duller than the male; the crown is obscured with sandy brown edges; the wing is less rosy in colour; the base of the secondaries conspicuously white.

*Length*.—6·2 inches.

*Hab*.—Yarkand through Persia to the Caucasus and Eastern Asia Minor, reaching to Arabia. A single specimen only of this species was got on the Upper Sind Frontier by Mr. Charles Hutchins during the winter of 1885.

#### Gen. *Erythrospiza*.—*Bp*.

Bill scarcely bulged, more sparrowlike; culmen and gonys slightly curved, the depth at base nearly equal to the length; commissure scarcely sinuated.

**829. *Erythrospiza githaginea* (*Licht.*), *Bp. Faun. Ital.* pl. 35, fig. 3; *Dresser, B. Eur.* p. 85, pl. 196; *Hume, Str. F.* 1878, vol. ii. p. 64; *Butler, t. c.* p. 284; *Hume, t. c.* p. 454; *id. Str. F.* 1879, p. 108. *Fringilla githaginea, Licht. Verz. Doubl.* p. 24. *Pyrhula githaginea, Temm., Pl. Col.* iii. pl. 400; *Hume, Ibis*, 1872, p. 468. *Carpodacus crassirostris, Blyth, J. A. S. B.* xvi. p. 476. *Bucanetes githagineus, Cab. Mus, Hein. Th.* i. p. 164; *Hume, Str. F.* 1878, p. 210; *Blanf., East. Pers.* ii. p. 250; *Murray, Vert. Zool. Sind.* p. 190. *Propasser githaginea, Jerd., B. Ind.* ii. p. 404.—The TRUMPETER BULL-FINCH.**

In the male the head is pale bluish grey, the feathers tipped brown; the chin, throat, breast, cheeks, and ear coverts a sort of blue grey, the feathers faintly tinged, most conspicuously so round the base of the lower mandible, with pale rosy; the abdomen, vent, and lower tail coverts very pale rosy white, the longest of the latter with dark shafts; the back and scapulars dull earthy brown, with, when fresh, a faint rosy tinge, which disappears in the dried skin.

and somewhat greyer towards the nape; rump pale brown, more decidedly tinged with rosy; the visible portion of upper tail coverts rosy white, more strongly tinged with rosy at the margins, the centres and bases of the longest being pale brown; these, however, are not seen till the feathers are lifted; tail feathers dark brown, conspicuously, though narrowly, margined with rosy white, most rosy towards the bases of the lateral feathers; the wings hair-brown, conspicuously margined and tipped with pale rose colour, or rosy white; the coverts, secondaries, and tertiaries most broadly so. There is a very narrow, inconspicuous, pale rosy frontal band. The wing lining and axillaries are pure white; the winglet alone is dark brown, unmargined with rosy.

"The female has the whole upper surface and the sides of the head and body a dull pale earthy brown, with only a faint rosy tinge upon the rump and upper tail coverts; the lower parts a still paler earthy brown with the faintest possible roseate tinge on the breast and becoming albescent on the vent, lower tail covert and tibial plumes; the wings and tail are as in the male; but the margins are narrower and less conspicuous, and are pale brownish instead of rosy white.

"*Both Sexes*.—Bill at front 0·35 to 0·41; tarsus 0·67 to 0·77. The irides are brown; the legs and feet fleshy brown; claws dusky; soles whitish; the bill orange yellow, in some probably less mature, pale yellow, brownish on upper mandible.

"*Male, Length*.—5·7 to 6 inches; expanse 10 to 10·7; tail from vent 2·1 to 3; wing 3·3 to 3·6; wing, when closed, reach to within 0·7 of end of tail.

"*Female, Length*.—5·7 to 5·8 inches; expanse 10·5 to 11·1; tail from vent 1·8 to 2; wings 3·2 to 3·4; wings, when closed, reach to within 0·6 to 0·8 of end of tail."—(*Hume, Str. F.* vi. 210, 211.)

*Hab.*—Sind, Punjab, Kutch, and Jodhpore, (Quetta) Beloochistan, Persia and Afghanistan. Winters in India; breeds in Persia and Afghanistan.

*Erythrospiza mongolica*, a species found in Gilgit and Southern Afghanistan, may be probably found in the Himalayas, or to range through Beloochistan into Upper Sind.

#### Gen. *Petronia*.—*Kaup*.

General characters of *Erythrospiza*; nostrils exposed.

**830. *Petronia flavicollis*, (*Frankl.*), *Blyth, Cat. B. Br. Mus. As. Soc.* p. 120; *Irby, Ibis*, 1861, p. 231; *Sharpe, Cat. B. Br. Mus.* xii. p. 293. *Fringilla flavicollis, Frankl., P. Z. S.* 1831, p. 20. *Gymnoris flavicollis, Blyth, J. A. S. B.* xiii. p. 948; *Adam, Str. F.* 1873, p. 388; *Hume, Nests and Eggs, Ind. B.* p. 461; *Ball., Str. F.* 1874, p. 421; *Blanford, East. Pers.* ii. p. 256; *id. Str. F.* 1877, p. 249; *Vidal, Str. F.* 1880, p. 72; *Reid, Str. F.* 1881, p. 56. *Passer flavicollis, Jerd., B. Ind.* ii. p. 368; *Butler, Str. F.* 1875, p. 497; *Murray, Vert. Zool. Sind*, p. 184; *Sharpe, Ibis*, 1886, p. 486.**

—The YELLOW-THROATED SPARROW.

*Male*.—Head, neck, back, rump, scapulars and under tail coverts pale earthy brown; a pale or fulvous supercilium, more distinct in females; chin white; throat-spot yellow; the rest of the under surface whity brown, albescent on the vent and under tail coverts; primaries and secondaries dull brown, the primaries edged paler and tipped whitish, as are also the secondaries; tertiaries broadly edged and tipped with fulvous; lesser wing coverts chestnut; median and greater coverts dull brown, tipped with fulvous white, forming two conspicuous wing bars; edge of the wing white; tail dull brown, the outermost feathers on each side paler.

The female wants the chestnut on the wing, and is more brown in colour beneath; the throat-spot too is less bright; upper mandible black, lower yellowish at the base; irides brown; legs pale brown.

*Length*.—5·5 inches; wing 3·4; tail 2; tarsus ·7.

*Hab*.—Sind, Punjab, N.-W. Provinces Beloochistan, Persia, Rajputana, Kutch, (Kattiawar, Jodhpore), N. Guzerat, Deccan and Concan. Other localities are Shiraz, Bushire, Fao, all over Sind, Kutch, Sharunpore, Lucknow, Etawah, Allahabad, Mhow, Indore, Saugor, Mahableshtar, the Malabar countries, Travancore, and Mysore.

Breeds throughout India nearly, during the months of April and May, also in June, in holes in trees in which a little grass is placed, but thickly lined with feathers, hair, tow, or any suitable fibrous material. Eggs, three to four, dull and glossless, moderately elongated ovals, greenish white or glossless white, thickly streaked, smudged and blotched with brownish.

#### Gen. **Passer**.—*Briss.*

Bill broad at base, slightly scooped at tip; 2nd and 3rd quills longest; nostrils partly covered by plumes.

**831. *Passer montanus***, *Koch., Syst. Baier. Zool.* p. 219; *MacGill, Brit. B. i.* p. 351; *Blyth, Cat. B. Mus. As. Soc.* p. 120; *Ferd., B. Ind. ii.* p. 306; *Hume, Nests and Eggs, Ind. B.* p. 460; *id. Str. F.* 1874, p. 481; *Blanf., East. Pers. ii.* p. 255; *Hume, Str. F.* 1879, pp. 67, 107; *Oates, B. Br. Burm. i.* p. 348; *Sharpe, Cat. B. Br. Mus. xii.* p. 302.—The RED-HEADED OR MOUNTAIN SPARROW.

Above fawn colour, the mantle with ashy fulvous edgings and broad black streaks; lower back and rump, also the upper tail coverts ashy brown, tinged with fulvous; lesser wing coverts uniform chestnut; median series black with broad white tips, forming a wing bar; greater series dusky blackish edged with pale rufous brown and with white at the ends; primary coverts and primaries the same; tail brown edged with ashy fulvous; entire head vinous chestnut; lores, feathers under the eye, and a patch under the ear coverts black; sides of face and neck white; chin and throat black; under surface of the body

ashy, whitish on the abdominal region and tinged with fulvous on the sides of the breast, flanks and under tail coverts. Bill black; iris brown; legs flesh colour.

*Length*.—5·6 inches; wing 2·75; tail 2·3; tarsus 0·7; culmen 0·45.

*Hab*.—The greater part of Europe, and eastward through Siberia to Japan and China. It is also found in N.-E. Africa, Central Asia, Persia, and Afghanistan, as well as in the Himalaya mountains, eastwards to Assam, Burmah, and through Tenasserim and the Malay Peninsula to Java. It is recorded from Nepaul, Sikkim, Darjeeling, Kashgar, Yarkand, and Kandahar; also from the Deccan, and in Burmah from Pegu, Bassein, Bhamo, Mergui, Tavoy, Poongyah, and Pakchan, where it almost replaces *Passer domesticus*.

**832. *Passer domesticus*, (Linn.), Pall. Zoogr. Rosso. Asiat. ii. p. 29; McGill. Brit. B. i. p. 340; Shelley, B. Egypt, p. 148; Blanf., East. Pers. ii. p. 254; Hume, Str. F. 1878, ii. p. 64; Legge, B. Ceylon, p. 600. *Fringilla domestica*, Linn. Syst. Nat. i. p. 323. *Pyrgita domestica*, Cuv. Regne. Anim. i. p. 385. *Passer Indicus*, Jerd. and Selby, Ill. Orn. iii. p. 118; Jerd., B. Ind. ii. p. 362; Hume, Nests and Eggs, Ind. B. p. 457; Blanf., East. Persia, ii. p. 254; Oates, B. Br. Burm. i. p. 346; Murray, Vert. Zool. Sind, p. 183.**—THE COMMON HOUSE-SPARROW.

*Male*.—Head and nape dark grey; lores, feathers below the eye, sides of the lower mandible, chin, throat and breast black; mantle and scapulars chestnut with dark mesial streaks; rump and upper tail-coverts ashy brown; lesser wing coverts chestnut, the last row or series of feathers dark brown at the base and tipped with white; the greater series dark brown, edged with rufescent and tipped with fulvous white; primaries, secondaries, and tertiaries dusky brown, edged with rufous, paler and narrow on the primaries, which are darkish brown on the middle of their outer webs; tertiaries tipped with fulvous white; sides of the face and neck and entire under surface white, the flanks cinereous; tail dusky or pale brown, the feathers edged with fulvous brown.

The female is pale earthy or light brown, with a fulvous supercilium extending to the nape and the lower parts less pure white; bill horny brown; legs dusky; irides light brown.

*Length*.—5·25 to 6 inches; wing 3; tail 2·25; tarsus 0·65; culmen 0·4.

*Hab*.—Throughout India to the Himalayas, Ceylon, Assam and Upper Pegu; also Beloochistan, Persia, and Afghanistan. Its nidification is too well known to need description.

**833. *Passer pyrrhonotus*, Blyth, J. A. S. B. xiii. p. 946; Bp. Consp. i. p. 508; Jerd., B. Ind. ii. p. 365; Hume, Str. F. 1873, p. 209; Scrope Doig. Str. F. 1880, p. 280; Murray, Vert. Zool. Sind, p. 184; Sharpe, Cat. B. Br. Mus. xii. p. 316.**—THE SIND SPARROW.

Head and ear coverts ashy grey; back and rump chestnut, the feathers with black central streaks and yellowish buff margins; throat stripe black, the margins of the feathers greyish; lores and eyelids blackish, a broad chestnut supercilium continued to the sides of the neck, the anterior portion being whitish; cheeks and sides of the neck white; lesser wing coverts chestnut; the median series also chestnut, with broad black centres and white tips; greater coverts chestnut with broad black centres and white tips; primaries, secondaries, and tertiaries dull brown or blackish brown, edged with rufous and with a white spot at base, forming a wing bar; upper tail coverts ashy brown, with dusky centres; tail dark brown, edged with fulvous white; under surface of the body white; foreneck and breast ashy, the flanks pale brown, and the thighs and under tail coverts, also the axillaries, white. Bill dusky brown; tarsi dusky fleshy brown; iris light brown.

*Length*.—5·2 to 5·3 inches; wing 2·6; tail 2·5; tarsus 0·65; culmen 0·4.

The female is not unlike the female of the House Sparrow.

*Hab*.—Sind, on the Eastern Narra

**834. *Passer hispaniolensis*** (*Temm.*), *Rupp. Syst. Uebers.* p. 78; *Sharpe, Cat. B. Br. Mus.* xii. p. 317. *Fringilla hispaniolensis*, *Temm., Man. d'Orn.* p. 353. *Passer salicicolus*, *Bp. Conspect.* i. p. 509; *Ferd., B. Ind.* ii. p. 64; *Murray, Vert. Zool. Sind*, p. 183.—The WILLOW SPARROW.

*Male*.—Head and back of neck dark chestnut, the feathers edged paler; back sooty brown with whitish edgings; rump and upper tail coverts pale brown; shoulder of wing chestnut, with white borders to the lesser coverts; rest of the wing dusky with broad pale rufous brown edgings, and a whitish bar formed by the tips of the greater coverts; secondaries edged and tipped whitish; tail dusky with pale edgings; lores, cheeks, and a narrow supercilium white, passing into ashy brown on the ear coverts; beneath, the chin, throat and breast black, some of the feathers edged whitish; rest of the lower parts sullied white or whitish; the flanks and under tail coverts with dusky longitudinal streaks.

*Length*.—5·75 inches; wing 3; tail 2.

The female resembles that of the common House Sparrow, but the striation on the dorsal feathers is less strongly marked. (*Ferdon.*)

*Hab*.—Sind, Punjab, N.-W. Provinces, Beloochistan, Persia, Afghanistan, Rajputana (Koochamun), and E. Turkistan.

**835. *Passer cinnamomeus*** (*Gould*), *Blyth, J. A. S. B.* xiii. p. 947; *Ferd., B. Ind.* ii. p. 365; *Blyth, Ibis*, 1867, p. 42; *Beavan, t. c.* p. 138; *Stoliczka, J. A. S. B.* xxxvii. p. 57; *Hume, Nests and Eggs, Ind. B.* p. 459; *Cock and Marsh, Str. F.* 1873, p. 357; *Brooks, Str. F.* 1875, p. 254; *Hume, Str. F.* 1879, p. 107; *Sharpe, Cat. B. Br. Mus.* xii. p. 326. *Pyrgita cinnamomea*, *Gould, P. Z. S.* 1835, p. 185; *Blyth, J. A. S. B.* xi. p. 108.—The CINNAMON-HEADED SPARROW.

Whole upper plumage including the top of the head cinnamon rufous, the feathers of the mantle streaked with black and tipped with fulvous; lesser wing coverts cinnamon rufous, the median series white with black bases, forming a broad wing bar; quills blackish brown, edged with ashy brown, the innermost secondaries with pale cinnamon, a pale whitish spot at the base of the primaries forming a speculum, the outer edge near the tip whitish; upper tail coverts and tail ashy brown; lores and feathers below the eye blackish, with a few whitish spots; cheeks and ear coverts pale yellow; upper edge of ear coverts cinnamon; chin and throat with a narrow central black patch; rest of the under surface of the body pale yellow; the sides of the body and flanks, also the thighs, pale ashy brown; axillaries and under wing coverts pale sulphur yellow. In winter plumage (male) the chestnut of the upper surface is edged with sandy buff.

The female is light brown above, with a pale supercilium, and wants the black throat; the under surface is dingy brown.

*Length*.—4·5 to 5 inches; wing 2·75 to 2·95; tail 1·8 to 1·9; tarsus 0·7; culmen 0·45 to 0·5.

*Hab.*—The Punjab and N.-W. Provinces to the Himalayas, Afghanistan, Cashmere, Sikkim, Assam, and Bhootan. Common at Darjeeling, Mussoorie, and Simla; also at Peshawar. Recorded also from Shillong and Munipoor.

Breeds throughout the Himalayas, from Murree to Nepaul, at elevations of from 4,000 to 7,000 feet, during May and June, nesting in holes in trees. Eggs four to six; rather smaller than those of *Passer indicus*, and not unlike them in marking.

**836. *Passer assimilis***, *Walden, Ann. and Mag. Nat. Hist.* (4) v. p. 218; *Hume, Str. F.* 1875, p. 157; *Blyth, B. Burm.* p. 94; *Hume and Dav., Str. F.* 1878, p. 407; *Hume, Str. F.* 1879, p. 107; *Wardlaw Ramsay, Works Tweed, App.* pp. 93, 668; *Oates, B. Br. Burm.* i. p. 350; *Sharpe, Cat. B. Br. Mus.* xii. p. 330.—The ALLIED HOUSE-SPARROW.

*Male.*—The whole upper plumage from the nostrils to the rump deep chestnut; upper tail coverts greyish brown with dark shaft-stripes; feathers of the back with the inner webs black at the tip; lores, feathers round the eye and over the ear coverts brown; cheeks, ear coverts and sides of the neck pure white; a broad black streak from the chin over the throat to the upper breast, where it becomes wider; lower plumage sooty brown; lesser wing coverts chestnut; median coverts black, broadly tipped with white; greater coverts brown, edged with pale rufous and tipped with whitish; primaries and secondaries dark brown narrowly edged with pale rufescent, the third to the seventh primaries with a broader edge of the same at the base of the outer webs; tertiaries blackish, edged with chestnut; tail brown, edged paler. (*Oates.*)

The female has the head and nape brown, tinged with rufescent, the feathers of the forehead with darker centres; the back rufescent brown, the feathers of which have the terminal portion of the inner webs black and the outer webs a little paler; rump pale chestnut; upper tail coverts greyish brown; tail brown; supercilium pale rufescent; lores and a streak behind the eye dark brown; lower plumage greyish brown, fulvescent or yellowish on the abdomen; under tail coverts brown, edged with yellowish; lesser wing coverts rufescent; median series dark brown, broadly tipped with white; greater coverts dark brown, narrowly edged with whitish; quills dark brown, narrowly edged with pale rufescent; third to seventh primaries with a broader edge of the same near the base of the outer webs; tertiaries and inner coverts dark brown, edged broadly with rufous. (*Oates*.)

*Length*.—4·5 inches; wing 2·7; tail 1·7; tarsus 0·5; bill from gape 0·55.

*Hab*.—Tonghoo and Karenne, Burmah.

**837. *Passer flaveolus***, *Blyth, J. A. S. B.* xiii. p. 946; *Hume, Nests and Eggs, Ind. B.* p. 460; *Blyth, B. Burm.* p. 94; *Hume, Str. F.* iii. p. 156; *Anders. Yunnan Exped.* p. 602; *Hume, Str. F.* viii. p. 107; *Oates, Str. F.* x. p. 233. *Passer jugiferus*, *Bp. Cons. Av.* i. p. 508; *Blyth, Ibis.* 1870, p. 172; *Oates, B. Br. Burm.* i. p. 349.—The PEGU HOUSE-SPARROW.

Entire top of head, also the nape and hinder portion of the neck, greenish olive; lores, chin, and mesial line on the throat black; a loreal streak from the nostrils to eye yellow; cheeks and ear coverts brighter yellow; a patch from the eye over the ear coverts to the sides of the nape chestnut, also the back, scapulars and lesser wing coverts; lower back and rump tinged yellowish; median wing coverts dark brown, tipped with white; the greater series and quills dark brown edged with yellowish white; under surface of the body with the under wing coverts bright yellow; tail brown, the outer webs tinged with olive yellow.

The female has the chin, cheeks, throat, and under surface of the body with the under wing coverts pale yellow; a yellowish white superciliary streak extends to the nape; the plumage of the entire upper surface of the body, including the scapulars and ear coverts hair brown, with darker shafts; wing coverts dark brown, the feathers edged with yellowish white; tail brown, the feathers edged with whitish on their outer webs. Bill black ♀; flesh colour ♂; iris hazel; legs plumbeous.

*Length*.—5·5 inches; wing 2·7; tail 2·1; tarsus 0·6; bill from gape 0·55. The female is smaller.

*Hab*.—British Burmah. *Oates* says, common about Thayetmyo. It has been observed at Rangoon, and is common also at Pegu. Captain Wardlaw-Ramsay met with it in Karenne. In Cochin China, according to Dr. Tiraud, it is abundant. Breeds on trees, generally in bamboo clumps.



Gen. *Serinus*.—*Koch*.

Bill swollen, both mandibles curved, tornium deflected; plumage yellow.

**838. *Serinus pectoralis*, Murray, Vert. Zool. Sind, p. 190, (1884); Sharpe, Cat. B. Br. Mus. xii. p. 372.**—The COLLARED SERIN.

*Male*.—A dark brown nearly black streak at the base of the upper mandible, followed by a bright yellow frontal band, extending as a broad supercilium to behind the ear coverts; a slaty grey streak through the eye; crown of the head slaty grey, each feather with a dark central streak; nape greenish olive; back, scapulars and lesser wing coverts yellowish green, the feathers with a dark mesial streak; median coverts dark brown, edged with yellow; greater coverts also dark brown, margined on their outer webs, and tipped with yellow; primaries and secondaries dusky brown, margined whitish on their inner webs, and edged on the outer very narrowly with greenish; rump olivaceous: upper tail coverts yellowish, some of the lateral feathers with a dark mesial streak; chin, throat, breast and sides of the face bright golden yellow; a dark brown nearly black streak from each side of the base of the lower mandible extending to the sides of the neck, which is slaty grey; sides of the breast slaty grey with a narrow band issuing from each side, nearly meeting on the lower breast and forming a nearly complete pectoral band; rest of under surface yellow; tail dusky brown, the feathers slightly darker on their outer webs, and all tipped yellowish white on their inner webs; bill horny; legs dark fleshy; irides light brown.

*Length*.—4·93 inches; wing 2·62; tail 1·5; bill at front 0·31.

This pretty little species was got at Kurrachee, and was alive when it was described in the possession of Mr. J. Strip, Assistant Collector of Customs, to whom I am indebted for having very kindly permitted me to describe it. Sharpe remarks, that it is closely allied to *S. canonicus*, if not identical with it; but the description of *S. canonicus* does not agree with it. It was captured in May 1881, having been struck by a catapult, and the wing so hurt as to disable it from flying. It has been a captive since, and appears quite happy. A second one was seen by Mr. Strip shortly after on a mound near an abandoned well in one of the Kurrachee gardens. He says that the bird in his possession is hardy and lively, and has an extremely pleasant song. It has outlived three canaries, and never yet appeared dull or ill, even when moulting.

It differs from *hortulana*, *canaria* and *aurifrons*, first in size, being smaller than the first two, and quite unlike in colour; and from Tristram's *aurifrons*, pl. 7, *Ibis*, 1868, in having no striations on the flanks, and from all the species I know, in having a nearly complete pectoral band, which is its chief characteristic. Tristram refers (*l. c.*) to Bonaparte's *S. syriacus*, which, he says, has a bright yellow forehead, light coloured back, and uniform yellow under surface

without striations. It may possibly be this species, but there is no mention of the pectoral band, the slaty grey sides of the breast, and the dark streak at the base of the upper mandible.

**839. *Serinus pusillus* (Pall.), Brandt, Bull. Sci. Acad. St. Petersb.** i. p. 366; *Bp. Consp.* i. p. 524. *Passer pusillus*, Pall., *Zoogr. Rosso-Asiat.* ii. p. 28, No. 43. *Metoponia pusilla*, *Bp. Notes, Orn. Coll. Delattre*, p. 17; *Ferd., B. Ind.* ii. p. 410; *Hume, Nests and Eggs, Ind. B.* p. 473; *Blanf., East. Pers.* ii. p. 250; *Hume, Str. F.* 1879, p. 108; *C. Swinhoe, Ibis*, 1882, p. 115; *Biddulph, t. c.* p. 284; *Murray, Zool. of Beloch. and S. Afghanistan.* *Fringilla aurifrons. Horsf., J. A. S. B.* xv. p. 38. *Serinus aurifrons*, *Blyth, Cat. Mus. A. Soc.* No. 681.—The GOLD-HEADED FINCH.

Forehead crimson; crown of head dusky blackish, also the feathers round the eye, the sides of the face, occiput, cheeks, throat, and foreneck; nape and hind neck blackish, the feathers more narrowly streaked with this colour and golden yellow; back more broadly streaked with the same; rump yellow, the feathers streaked mesially with blackish; lesser wing coverts black, the lesser coverts margined with yellow and the median and greater series edged and tipped with whitish with a slight yellow tinge; primary coverts blackish edged with ashy yellowish; quills dusky brown; the primaries edged with golden yellow; the secondaries margined with the same near the base and fringed near the tip with whitish ashy; upper tail coverts black, broadly edged with ashy white; tail blackish, edged with whitish and tinged with golden yellow near the base; under tail coverts golden yellow, also the under wing coverts and axillaries. Bill dull black; base of lower mandible slightly tinged with brown.

*Length*.—4·8 inches; wing 2·95; tail 2·05; tarsus 0·6; culmen 0·3.

The female is less bright in colour and rather smaller.

*Hab.*—From the Caucasus and Northern Persia to Turkistan, wintering in Asia Minor and in the N.-W. Himalayas. Common in Southern Afghanistan, also in Cashmere, and at Simla, Kotegurh, Murree, and Mussoorie. In the Hume collection there are specimens from Kashgar, Ladak, and Gilgit; also from Murdan and Kotekhale.

This species is generally found in small flocks and affects cereal crops and grasses which are in seed; often, however, they may be seen solitary or in pairs.

#### Gen. *Pyrrhoplectes*.—Hodgs.

Bill bulged; tip of upper mandible slightly overhanging; lower mandible very thick; wings moderate, 2nd, 3rd, and 4th primaries subequal and longest; tail even or very slightly divaricate.

**840. *Pyrrhoplectes epauletta*, *Hodgs., As. Res.* xix. p. 156; *Jerd., B. Ind.* ii. p. 382; *Hume, Str. F.* 1879, p. 108; *Sharpe, Cat. B. Br. Mus.* xii. p. 386.—The GOLD-HEADED BLACK BULL-FINCH.**

Top of head and occiput bright golden orange; rest of the body brownish black, except a tuft of golden yellow feathers on the axillaries; inner webs of the uppermost tertiaries partially white.

The female is reddish brown with the forehead and neck grey and the coronal patch with the ear coverts dull greenish saffron; axillaries as in the male; primaries and tail dusky, with white on the inner webs of the tertiaries. Bill dusky horny; legs brown; irides brown.

*Length*.—5·75 inches; wing 3; tail 2·25; tarsus 0·7; bill at front 0·45.

*Hab.*—Himalayas, Nepaul, Sikkim and Darjeeling.

Gen. ***Carpodacus***.—*Kaup*.

Bill tumid, rather longer than in *Pyrrhula*, and compressed at the tip, notched near its base; tail forked.

**841. *Carpodacus erythrinus*, *Pall., Nov. Comm. Petrop.* xiv. p. 587, pl. 23, fig. 1; *Jerd., B. Ind.* ii. p. 398, No. 738; *Dresser, B. Eur.* iv. p. 75; *Blyth, B. Burm.* p. 94; *Oates, Str. F.* iii. p. 342; *Scully, Str. F.* iv. p. 170; *David et Oust. Ois. Chine*, p. 350; *Blansf., East. Pers.* ii. p. 250; *Hume, Str. F.* viii. p. 108; *Scully, Str. F.* viii. p. 335; *Biddulph, Ibis*, 1881, p. 83; *id., Str. F.* ix. p. 348; *Oates, Str. F.* x. p. 234; *Murray, Hdbk. Zool., &c., Sind*, p. 185; *Oates, B. Br. Burm.* i. p. 345; *Murray, Vert. Zool. Sind*, p. 189; *id., Zool. Bel. and S. Afghan*, p. 59.—The COMMON ROSEFINCH.**

Chin, throat, head, nape and rump brilliant crimson, the sides of the head duller and the ear coverts tinged with brown; lores brown; back and scapulars dull red, the terminal third of the feathers being red and the basal two-thirds grey; upper tail coverts brown, margined with dull red; tail brown, suffused with ruddy on the outer webs; belly and flanks pale crimson, paling to rosy white on the vent and under tail coverts; axillaries smoky grey; upper wing coverts brown, tipped and margined with dull crimson; wing brown, more or less suffused with dull crimson on the outer webs of the quills.

*In winter plumage the male* has the chin, throat, head, nape and rump a dull crimson, but brighter than the back; the breast, abdomen, flanks and vent pale rose colour with a tinge of yellow; wing coverts tipped with rose colour instead of crimson. (*Oates*.)

The female has the whole upper plumage olive brown, each feather tinged with yellowish brown; upper wing coverts brown, broadly tipped with ochraceous, paler and more yellowish white in some; wings and tail brown, the outer webs narrowly margined with pale ochraceous; ear coverts brown, with paler shafts; chin, throat, breast, upper abdomen and flanks light brown,

streaked with dark brown; centre of abdomen, vent and under tail coverts whity brown. Bill horny grey, darker on the culmen; irides brown; feet fleshy brown. (*Scully*.)

*Length*.—6 inches; wing 3·2; tail 2·6; tarsus 0·8; bill from gape 0·5.

*Hab*.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Central and South India, Sikkim and in the Himalayas, chiefly at the foot of the hills and in the valley. Jerdon says it extends to Assam and Arrakan, and Oates that it has also been procured at Tounghoo and in the Karin hills, also Thayetmyo. It is found in India and Burmah as a winter visitor only, resorting to Northern Asia and Europe to breed. The eggs are said to be five in number, bluish green in colour, marked with reddish black; like the *Passerina*, it feeds on various seeds and grain.

**842. *Carpodacus sipahi*** (*Hodgs.*), *Sharpe, Cat. B. Br. Mus.* xii. p. 397. *Corythus sipahi*, *Hodgs., As. Res.* xix. p. 151. *Hæmatospiza sipahi*, *Blyth, Cat. B. Mus. As. Soc. App.* p. 342; *Jerd.*, *B. Ind.* ii. p. 394; *Hume, Str. F.*, 1869, p. 108; *Hæmatospiza boetonensis*, *Blyth, J. A. S. B.* 1841, p. 951.—The SCARLET GROSSBEAK.

Brilliant scarlet above and below; the wings and tail dusky brown, edged more or less with scarlet; tibial feathers dark brown; lower tail coverts scarlet with dusky bases; thighs sooty black; axillaries scarlet.

The female is dusky brown, the feathers broadly margined with dull greenish yellow; beneath pale olivaceous yellow with dusky crescentic marks, becoming more albescent on the lower abdomen. Bill yellow; legs brown; irides hazel brown. (*Jerd.*)

*Length*.—7·5 inches; wing 4·1; tail 2·5; bill at front 0·5; tarsus 0·75.

*Hab*.—S.-E. Himalayas, in Nepaul and Sikkim. Jerdon adds that it is by no means rare about Darjeeling, haunting elevations from 5,000 to 1,000 feet.

**843. *Carpodacus rubicilla*** (*Gould*), *Bp. et Schleg. Mon. de Loxiens*, p. 23; *Jerd.*, *B. Ind.* ii. p. 397, No. 737. *Loxia rubicilla*, *Gould, Nov. Comm. Petrop.* xix. p. 464; *Gould, B. Asia*, v. pl. 25. *Coccothraustes caucasica*, *Pall. Zoogr.* ii. p. 13. *Pyrrhula caucasica*, *Keys and Blass, Wirb. Eur.* pp. xi. et 158.—The CAUCASIAN ROSEFINCH.

Forehead, ear coverts and throat shining white, bordered with carmine red; crown of the head, nape, back, wing coverts, scapulars and upper tail coverts beautiful pale rosy grey; primaries, secondaries and tail brownish black, narrowly edged with reddish; chin, abdomen and breast carmine red, each feather with a triangular spot of shining white at the tip; under tail coverts pale carmine red; rump the same.

The female is brown above, paler beneath, the feathers streaked with dark brown; primaries and secondaries brown, edged with pale brown. Bill dark brown above, fleshy on the lower mandible; feet dark brown.

*Length*.—8·5 inches; wing 4·5; tail 4; tarsus 1.

*Hab.*—N.-W. Himalayas. Has been found in the Punjab, at Pind Dadun Khan, also in Cashmere.

**844. *Carpodacus grandis***, *Blyth, J. A. S. B.* xiii. p. 810. *Carpodacus rhodochlamys* (*nec Brandt.*), *Gould, B. Asia*, v. pl. 26. *Propasser rhodochlamys*, (*nec Brandt.*) *Bp. et Schleg. Monog. de Loxiens*, p. 22, pl. 25; *Jerd., B. Ind.* ii. p. 401, No. 741; *Hume, Str. F.* 1879, p. 108; *Scully, Ibis*, 1881, p. 578; *Biddulph, t. c.* p. 84.—The RED-MANTLED ROSEFINCH.

Upper surface of the body greyish brown, strongly tinged with rosy red; crown of the head washed with purplish rose colour, the feathers streaked with dark brown; supercilium, cheeks and throat shirring rosy white; quills and tail brownish black, margined with greyish red; rump and under surface of the body deep rose-red; under wing coverts rosy white.

The female is brown, somewhat brighter on the lower surface, and with a streak of brownish black down each feather; the wings and tail brown with paler margins especially on the greater and middle coverts of the wings. Bill brownish grey above, yellowish beneath; feet brownish yellow.

*Length—female*.—7 inches; wing 3·5; tail 2·75. The male is larger.

*Hab.*—Himalayas, between Simla and Mussoorie, Thibet and the Altai mountains, also Afghanistan and Native Sikkim. In the Hume collection are specimens from Kotegurh, Simla, Chamba and hills north of Mussoorie.

**845. *Carpodacus rhodochrous*** (*Vigors*), *Gray, Gen. B.* ii. p. 384. *Propasser rhodochrous*, *Hodgs., P. Z. S.* 1845, p. 36; *Jerd., B. Ind.* ii. p. 402, No. 714; *Brooks, Str. F.* 1875, p. 255; *Butler, Str. F.* 1880, p. 368. *Fringilla rhodochrous*, *Vigors, P. Z. S.* 1831.—The PINK-BROWED ROSEFINCH.

Upper surface of the body brown, edged with reddish; head and neck dusky crimson or vinous rosy; forehead, supercilium and rump pale rosy; wings unspotted brown; wing coverts reddish brown; quills blackish, edged externally with ruddy brown; under surface of the body dull vinous rosy.

The female is brown above, the feathers edged with pale olive brown; beneath pale rufous or rufescent, with brown streaks. Bill pale brown; legs and feet fleshy brown.

*Length*.—6 inches; wing 2·8; tail 2·3.

*Hab.*—Western Himalayas, Cashmere to Nepaul. According to Hutton it is common at Mussoorie, flying about in small flocks with Bulfinches and Siskins.

**846. *Carpodacus rhodopeplus*** (*Vigors*), *Gray, Gen. B.* ii. p. 384; *Blyth, Cat. Mus. As. Soc.* p. 121; *Bp. Consp.* i. p. 53, *Sharpe, Cat. B. Br. Mus.* xii. p. 416. *Propasser rhodopeplus*, *Hodgs., ined. in Br. Mus.* pl. 299; *Jerd., B. Ind.* ii. p. 400, No. 739; *Str. F.* i. p. 15. *Fringilla rhodopeplus*, *Vigors, P. Z. S.* 1831, p. 193; *Gould, Cent. Him. B.* pl. 31, fig. 1. The SPOTTED-WINGED ROSEFINCH.

Above dark crimson or ruddy brown with dusky or blackish median streaks; supercilium pale glistening roseate; rump and the tips of the wing coverts and tertiaries vinaceous rosy pink; throat, breast and under surface of the body dull vinous rosy.

The female is deep brown above with paler margins to the feathers; under surface of the body light yellowish brown with dark central lines; a broad pale supercilium and another pale line from the lower mandible. Bill horny brown; legs pale brown; irides brown.

*Length*.—6·75; wing 3·25; tail 2·75.

*Hab*.—Himalayas. Found at Mussoorie, and also in Nepaul and Sikkim.

**847. *Carpodacus Edwardsii*, Verr., *N. Arch. Mus.* vi. *Bull.* p. 39; *id.* vii. p. 58; *Sharpe, Cat. B. Br. Mus.* xii. p. 418. Propasser saturatus, *Blanf. J. A. S. B.* xli. p. 168; *Hume, Str. F.* 1873, p. 180. Propasser Edwardsii, *David et. Oust. Ois. Chine*, p. 355; *Hume, Str. F.* 1878, vol. ii. p. 415; *id. Str. F.* 1879, p. 108.—EDWARD'S ROSEFINCH.**

Above ruddy brown washed with crimson, the mantle and back streaked with dusky blackish centres to the feathers; rump and upper tail coverts more uniform; lesser wing coverts ruddy brown; median and greater series dusky, edged with ruddy brown, and tipped with pale rosy, forming a double wing bar; bastard wing, primary coverts and quills dusky brown, edged with ruddy brown, more rosy on the primaries; the inner secondaries tipped with rosy; tail dusky brown, edged with ruddy brown; crown of head dull crimson with longitudinal dusky centres; base of forehead varied with rosy tips to the feathers, this being continued over the eye, forming a supercilium; lores, feathers round the eye and upper part of ear coverts dark crimson, the remainder of ear coverts, sides and cheeks rosy, the feathers tipped with pearly rose colour; throat like the cheeks; foreneck and breast dark crimson with dusky shaft lines; lower breast and abdomen washed with rosy, the latter with dusky shaft lines; sides of body and flanks brown, washed with crimson; thighs brown; under tail coverts brown, washed with rosy and with dusky shaft lines; under wing coverts and axillaries dark ochreous brown, washed with crimson. (*Sharpe*.) Bill brown, the lower mandible greyish; feet reddish grey; iris reddish chestnut. (*A. David*.)

*Length*.—5·5 inches; wing 3; tail 2·25; tarsus 0·8; culmen 0·5.

The adult female is dark ochreous brown above, streaked with dusky brown; head the same; rump and upper tail coverts nearly uniform; lesser coverts dull ochreous brown; median and greater coverts dusky, edged externally with pale ochreous, forming a double wing-bar; bastard wing and primary coverts blackish, edged with ashy ochreous; quills dusky brown, edged with pale ochreous; lores ashy; eyebrow and eyelid ochreous buff; ear coverts dark brown; cheeks ochreous buff, streaked with dark brown; under surface of the body ochreous buff, broadly streaked with black on the throat, narrowly

on the foreneck and breast; abdomen clear ochreous buff, with obsolete dusky shaft lines; sides of the body and flanks dark ochreous brown; under tail coverts pale ochreous with lighter margins and dusky centres; under wing coverts and axillaries pale ochreous with dusky bases.

*Length*.—5·5 inches; wing 3·1; tail 2·3; tarsus 0·9; culmen 0·55.

*Hab*.—The Himalayas from Nepal to Bhootan. Recorded from Sikkim and Darjeeling.

**848. *Carpodacus thura*, Bp. and Schleg. Monog. Lox. pl. 23.** Propasser thura, *Jerd.*, *B. Ind.* ii. p. 400, No. 740; *Hume, Str. F.* i. p. 15; *id.*, *Str. F.* vii. p. 459.—The WHITE-BROWED ROSEFINCH.

Similar to *P. rhodopeplus*; differs in the male being hair-brown above centred with blackish; rump rose color; only the lesser wing coverts tipped with pale crimson; end of the superciliary streak and the centre of the belly pure white; bastard wing, primary coverts and quills blackish, edged with dull rosy; secondaries edged with creamy white like the greater coverts; crown of head like the back; forehead rosy, extending back in a line over the eye as an eyebrow; feathers round the eye and a broad streak above the ear coverts dark brown; ear coverts, cheeks and throat rose colour; under surface of the body rosy, the foreneck streaked with pearly white; lower abdomen white; sides of the body and flanks brown streaked with black; under tail coverts rosy; under wing coverts and axillaries greyish white.

*Length*.—7·5 inches; wing 3·4; tail 3; tarsus 0·9.

The female is brown above, all the feathers broadly centred with black; rump golden yellow, streaked with black centres to the feathers; upper tail coverts dark brown, edged with whitey brown and tinged with golden yellow; lesser wing coverts dull golden yellow with black centres; median and greater coverts blackish, edged with brown; tail the same; quills blackish; base of forehead brownish white, streaked with black; eyebrow pale rufous; also the cheeks, which are streaked with black; throat, foreneck and chest rufous, narrowly streaked with black; abdomen white, with narrow black streaks; sides of body and flanks brown, tinged with rufous and streaked with black; under tail coverts yellowish buff, with black centres; under wing coverts and axillaries white; edge of wing pale rufous. (*Sharpe*.)

*Length*.—6·5 inches; wing 3·25; tail 2·85; tarsus 0·9.

*Hab*.—The Himalayas from Nepal to Sikkim and Thibet.

**849. *Carpodacus dubius*, Pryr. in Rowley's Misc. ii. p. 30.** Propasser frontalis, *Blyth, J. A. S. B.* xxxii. p. 458; *Jerdon, B. Ind.* ii. p. 403, No. 744; *Hume, Str. F.* 1878, vol. ii. p. 459; *id. Str. F.* 1879, p. 108.—The ROSY-FRONTED ROSEFINCH.

Frontal band, and supercilium silvery rose pink; lores and a narrow band round the base of the bill beneath, crimson; top of the head, nape and cheeks

plain dark brown; back brown, with broad central streaks; wings brown, the median coverts tipped with rosy, forming a prominent band; greater coverts and tertiaries narrowly edged with rosy white; tail brown; rump and upper tail coverts pale vinaceous rosy; chin, throat, neck and breast rufous, with black mesial streaks and silvery white shafts; rest of the lower plumage of a dull rosy tint.

The female has the whole of the upper plumage yellowish brown, with black streaks and two pale, very narrow wing bands; quills and tail dark brown; forehead, eyebrow, lores and face white with black stripes; chin, throat and breast rufous, with black stripes; belly, vent and under tail coverts white, with dark stripes. Bill horny brown; legs pale brown; irides brown.

*Length*.—6·75 inches; wing 3·25; tail 3.

*Hab*.—Sikkim, N.-W. Himalayas.

**850. *Carpodacus ambiguus* (Hume), Sharpe, Cat. B. Br. Mus.** xii. p. 428, pl. x. *Propasser ambiguus*, Hume, *Str. F.* 1874, p. 326; Brooks, *Str. F.* 1875, p. 255; Hume, *Str. F.* 1879, p. 108.—HUME'S ROSEFINCH.

Above dull brown, the feathers centred with blackish, the pale edges to the feathers more distinct on the mantle and upper back; rump uniform pale rosy; lesser wing coverts dark brown; median and greater series the same, edged with pale brown and tinged with rosy; bastard wing and primary coverts dark brown; quills and upper tail coverts the same, edged with paler brown; crown of head blackish, with a faint tinge of crimson; lores and eyebrow dark crimson, also the feathers round the eye, sides of face, ear-coverts cheeks and throat; under surface of the body pale rose colour, with dusky shaft streaks; the feathers of the foreneck and chest slightly washed with crimson; sides of the body and flanks more broadly streaked with blackish brown; thighs ashy brown; under tail coverts pale rosy; under wing coverts and axillaries whitish, washed with rosy.

*Length*.—5·5 inches; wing 3; tail 2·1

The female is marked like the male but is pale brown, and the black streaks are broader and well defined on the fulvous white under surface of the body.

*Hab*.—Himalayas, from the neighbourhood of Mussoorie to Nepal.

**851. *Carpodacus pulcherrimus* (Hodgs.), Gray, Hand.-l. Birds** ii., p. 102; Sharpe, *Cat. B. Br. Mus.* xii., p. 429. *Propasser pulcherrima vel rhodochroa*, Hodgs., *Icon. ined.* pl. 301 (fig. 467). *Propasser pulcherrimus*, Moore, *P. Z. S.* 1855, p. 210; Ferd., *B. Ind.* ii., p. 462; Hume, *Nests and Eggs, Ind. B.* p. 471; *id.*, *Str. F.* 1874, p. 317; *id.*, *Str. F.* 1879, p. 108. *Carpodacus Davidianus*, Milne-Edwards, *Nouv. Arch.* 1, *Bull.* p. 19, pl. ii., fig. 2.—THE BEAUTIFUL ROSEFINCH.

Above ruddy brown, streaked with black centres, the mantle rather more ashy; rump clear rosy; lesser wing coverts ruddy brown; median and



greater series, dusky brown edged with lighter brown, rather rosy towards the ends; bastard wing, primary coverts and quills dark brown, edged with dull rosy; the secondaries edged with ruddy brown, the inner ones with ashy whitish near the tips; upper tail coverts brown, tipped with rosy and centred with black; tail dark brown, edged with ruddy brown; crown of the head ruddy brown, tinged with rosy and centred with black; lores dusky; base of forehead and eyebrow pale rosy, with a pearly gloss, streaked with black on the anterior portion of the eyebrow; ear coverts, sides of face and cheeks rosy with a pearly gloss, surmounted by a dark brown stripe over the ear coverts; throat and under surface of the body rosy, with a pearly gloss on the throat and foreneck and with black shaft lines; breast and abdomen with crimson reflections, the latter uniform; sides of the body and flanks brown, streaked with black; thighs brown; under tail coverts rosy, streaked with black, the long ones edged with whitish near the tips; under wing coverts rosy, centred with black, the longer ones whitish; axillaries pale rosy. (*Sharpe.*)

*Length.*—7·2 to 7·5 inches; wing 3·05; tail 2·4; tarsus 0·7; culmen 0·45.

*The female* is ruddy brown above, streaked with black centres to the feathers; the lesser wing coverts like the back, and the median and greater series blackish, margined with light reddish brown, paler at the tips of the feathers; bastard wing, primary coverts and quills blackish, edged with brown, the inner secondaries with pale reddish brown; rump more uniform than the back; upper tail coverts ruddy brown, with black centres; tail dark brown, margined with paler brown; crown of head like the back, centred with black streaks; eyebrow creamy white, narrowly streaked with black; sides of face, ear coverts and cheeks pale tawny buff, streaked with black; a dark brown line above the upper edge of the ear coverts; throat and under surface of the body pale tawny buff, paler on the throat and whiter on the abdomen; under tail coverts pale tawny buff and centred with black; axillaries and under wing coverts pale tawny buff with ashy bases. (*Sharpe.*)

*Length.*—5·5 inches; wing 3; tail 2·2; tarsus 0·7; culmen 0·45.

*Hab.*—The Himalayas from Kumaon to Nepal and Sikkim.

#### Gen. *Pyrrhospiza*.—*Hodgs.*

Bill conical, elongate, with a slightly curved outline both above and below, somewhat compressed and tapering to the tip; gonys arched; wings long, reaching to more than half the length of the tail, which is moderately long. 1st four primaries subequal, 2nd and 3rd rather the longest; feet adapted for ground habits; toes rather long; claws large and arched. (*Ferd.*)

**852. *Pyrrhospiza punicea*, Hodgson, J. A. S. B. xiii., p. 953; *Ferd.*, B. Ind. ii., p. 406, No. 747; *Hume*, Str. F. 1879, p. 108; *Sharpe*, Cat. B. Br. Mus. xii. p. 431. *Propyrrhula rubeculoides*, Hodgson, P. Z. S. 1845, p. 36. *Pyrrhospiza Humii*, *Sharpe*, Cat. B. Br. Mus. xii., p. 433.—The LARGE RED-BREASTED FINCH.**

Upper surface of the body dark brown, the feathers centred with blackish ; rump bright rose colour ; wing coverts like the back, the lesser coverts washed with reddish ; the median and greater series with reddish brown and edged with pale brown ; primary coverts and quills dark brown, narrowly edged with ashy brown ; upper tail coverts light brown ; forehead crimson ; crown of the head like the back, the feathers with blackish centres ; lores dusky, with crimson tips ; eyebrows crimson ; ear coverts dark brown, streaked with blackish centres ; cheeks and feathers below the eye crimson, the feathers with silvery white tips ; throat, foreneck and breast crimson, with silvery white centres to the feathers ; abdomen earthy brown, centred with black ; sides of the breast and body, also the flanks, dark brown, with blackish centres to the feathers ; under tail coverts rosy, with dark brown centres ; under wing coverts ashy brown, washed with rosy and centred with black. Bill dark horny ; feet dusky black ; irides brown.

*Length*.—7·5 to 8 inches ; wing 4·5 to 4·75 ; tail 3·1.

The female is fulvescent brown throughout, with the feathers mesially streaked with black ; wing coverts and quills dark brown, with paler edges ; eyebrow and feathers round the eye ochreous buff, streaked with black ; ear coverts the same ; cheeks and under surface of the body ochreous buff ; from the throat below, streaked and spotted with black.

*Hab.*—Himalayas, from Nepaul to Sikkim.

#### Gen. **Loxia**.—*Lin.*

Bill somewhat lengthened, strong, and compressed towards the tip ; culmen keeled and strongly hooked at the tip ; both mandibles hooked, so that the tips cross each other ; wings moderately long, 1st and 2nd quills subequal and longest ; tail short, forked. Jerdon says "the peculiar structure of the bill of these finches enables them to extract the seeds from the hard woody cones of the various pines, and the ease and rapidity with which they do this is said to be very wonderful. They nidificate high up on pine trees, making a nest of twigs and grass lined with hair.

**853. *Loxia curvirostra*, Linn, *Syst. Nat.* i., p. 299 ; *Sharpe, Cat. B. Br. Mus.* xii., p. 435. *Loxia himalayana*, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85 ; *id.*, *J. A. S. B.* xiii. p. 952 ; *id.*, *P. Z. S.* xxxv., p. 35 ; *id.*, *Ann. and Mag. Nat. Hist.* xvi. p. 206 ; *Jerd.*, *B. Ind.* ii. p. 393, No. 734 ; *Gould, B. Asia*, v., pl. 41 ; *Hume, Str. F.* 1879, p. 108.—THE HIMALAYAN CROSS-BILL.**

The greater part of the head and neck and the whole body beneath rich roseate blood red, more or less tinged with dusky brown ; rest of the head, neck, back, wings and tail ashy brown, smeared and edged with red.

The female is brown above, the rump tinged with yellow ; pale yellowish beneath, tinged on the breast and abdomen with olive yellow.

*Length*.—5·75 to 6·5 inches ; wing 3·25 ; tail 2·3 ; bill at front 0·5.

*Hab.*—The greater part of Europe, and Northern Asia to Japan and North China, the Himalayas, Nepaul, Sikkim, and Thibet.

Gen. **Pyrrhula**.—*Briss.*

Bill short, as high as its greatest length and breadth; tip slightly compressed and overhanging; 2nd, 3rd, and 4th primaries subequal and longest, the 1st and 5th shorter; sole of the foot broad, the feet formed for perching; tail emarginate.

**854. *Pyrrhula erythrocephala***, *Vigors, P. Z. S.* 1831, p. 174; *Sharpe, Cat. B. Br. Mus.* xii. p. 457; *Gould, Cent. Him. B.* pl. 32; *id., B. Asia*, pl. 35; *Gray and Mitch., Gen. B.* ii., p. 387; *Bp. Consp. Av.* p. 525; *Jerd. B. Ind.* ii. p. 389.—The RED-HEADED BULLFINCH.

Head dull crimson, continued round the sides of the neck and more or less on the ear coverts; lores, feathers below the eye, eyelids, forepart of cheeks, chin and a narrow band on the forehead and round the base of the bill black, set off with whitish passing into the red of the hinder cheeks; back, scapulars and wing coverts dull reddish ashy; rump, upper tail coverts and tail purplish black, the outermost feathers of the latter black; median coverts, wings and tail glossy black; greater coverts ashy terminally and purplish black basally; lower throat ashy grey tinged with red; sides of the neck and body, foreneck and breast pale vermillion; abdomen ashy grey, white towards the vent and on the under tail coverts; thighs ashy grey; under tail-coverts white; under wing coverts and axillaries whitish, the latter more ashy and with a reddish tinge. Bill black; legs pale fleshy brown.

*Length.*—5·4 inches; wing 3 to 3·2 inches; tail 2·4; tarsus 0·7; culmen 0·4.

The female has the head and neck dull greenish yellow, the back browner than in the male, and the lower parts pale brown.

Bill black; legs pale fleshy brown; irides light brown.

*Length.*—6 inches; wing 3·1 to 3·2; tail 2·75.

*Hab.*—The Himalayas; Jerdon says more common in the N.-West, sometimes rare in the S.-East. He procured it at Darjeeling, where it is only a winter visitant. It has also been recorded from Sikkim and from Mussoorie, where, according to Blyth (*Jerd.*), it feeds on the ground, as well as on berry bearing bushes, and perches high on the top of trees. Kotegurh, Simla and Nepaul are other recorded localities.

**855. *Pyrrhula nipalensis***, *Hodgs., Asiat. Res.* xix. p. 155; *id. Icon. ined. in Br. Mus.* pl. 330 fig. 1; *Blyth, Cat Mus. As. Soc. Calc.* p. 122; *Bp. Consp. Av.* i. p. 525; *Gould, B. Asia*, v. pl. 27; *Jerd. B. Ind.*, ii. p. 390, No. 731; *Hume, Str. F.* 1879, p. 108; *Sharpe, Cat. B. Br. Mus.* xii. p. 453.—The BROWN BULLFINCH.

Above drab brown, smeared with slaty cinereous; rump, upper tail coverts, wings and tail glossy black, the rump with a white band across it; outer web

of innermost secondaries crimson; a pale drab band formed by the tips of the greater coverts; a narrow band of dusky brown round the base of the bill; a small white spot under the eye; ear coverts, cheeks, sides of body and flanks, also the thighs and under surface of the body like the back but paler and passing to white on the lower abdomen, vent and under tail coverts. Bill greenish horny, tipped with black; legs fleshy brown; irides brown.

*Length*.—6·2 to 6·3; wing 3·3; tail 3·5, emarginate, the middle feather 0·75 inch shorter than the rest.

The female has the outer web of the tertiaries saffron yellow instead of red.

*Hab*.—S.-E. Himalayas, Nepaul and Sikkim.

**856. *Pyrrhula erithacus***, *Blyth, Ibis*, 1862, p. 359; *id.*, *J. A. S. B.*, xxxii. p. 459; *Ferd. B. Ind.* ii. p. 389, No. 730; *Hume, Str. F.* 1874, p. 455; *id.*, *Str. F.* 1879, p. 108; *Blyth, Ibis*, 1862, p. 389; *Beavan, Ibis*, 1868, p. 177; *Gould, B. Asia* v. pl. 39; *Sharpe, Cat. B. Br. Mus.* xii. p. 455.—BEAVAN'S BULLFINCH.

A narrow black band edged with white round the base of the bill; head, neck, back and wing coverts pure ashy grey, paler on the chin and throat, and edged with black where it joins the pure white on the rump; wing and tail glossy black; greater coverts pale silvery ashy, forming a conspicuous pale wing bar; beneath from the breast lively red passing to white on the vent and under tail coverts; eyelids, lores, forepart of cheeks and chin spot black; lower throat ashy grey washed with orange; neck and breast orange scarlet; bill black; feet fleshy; iris dark brown.

*Length*.—5·8 to 6 inches; wing 3·3 to 3·4; tail 3.

*Hab*.—Sikkim (Darjeeling).

**857. *Pyrrhula aurantiaca***, *Gould, P. Z. S.* 1857, p. 22; *id.*, *B. Asia* v. pl. 34; *Ferd. B. Ind.* ii. p. 390, No. 732; *Stoliczka, Str. F.* 1874, p. 461; *Hume, Str. F.* 1879, p. 108; *Scully, Ibis*, 1881, p. 577; *Sharpe, Cat. B. Br. Mus.* xii. p. 455. *Pyrrhula aurantia*, *Gould, B. Asia*, v. pl. 34; *Hume, Nests and Eggs Ind. B.* p. 47.—THE ORANGE BULLFINCH.

Frontal band, lores, eyelid, forepart of cheeks, upper throat, wings and tail deep black; also the upper tail coverts; sides of neck and of face, ear coverts and upper and under surface of the body deep orange; under tail and under wings coverts, also the axillaries and rump, white; wing coverts black, margined with orange, ashy subterminally; apical half of the innermost of the greater wing coverts orange, the outer ones slightly tipped with buffy white.

Bill black; feet fleshy; irides dark brown.

*Length*.—5·5 inches; wing 3·25; tail 2·3; tarsus 0·6.

The female has a black circle round the bill; head and neck ash colour; back ashy, tinged with orange red; lower parts as in the male but less brilliant.

*Hab*:—Cashmere, the Sind Valley, Murree and the N.-W. Himalayas.

Gen. **Propyrrhula**.—Hodgs.

Bill short, a little longer than high or than its greatest breadth; tip of the upper mandible very little prolonged and overhanging.

**858. *Propyrrhula subhimalayensis***, Hodgs., *As. Res.* xix. p. 152; *Sharpe, Cat. B. Br. Mus.* xii. p. 462. *Corythus subhimalayensis*, Hodgs., *Icon ined in Br. Mus. Passeres*, pl. 305; *Jerd. B. Ind.* ii. p. 396, No. 736.—The RED-HEADED ROSEFINCH.

The forehead, supercilium, cheeks, throat and breast roseate, brightening to crimson in the breeding season; crown, back and wings olivaceous brown, margined with crimson, more or less bright and often mingled with dull greenish orange, purer on the rump and upper tail coverts; primaries and tail hair brown margined with red or orange; ear-coverts and sides of the neck dark crimson; feathers round eye paler; under surface of the body from below the breast dull brownish grey, tinged with olivaceous on the flanks; lower abdomen whitish.

The female has the forehead and part of throat and breast bright yellow; rest of the head, the neck and the lower plumage plumbeous grey, tinged with greenish, paler and albescent on the vent and under tail coverts; upper plumage dusky greenish; wings and tail dusky brown with yellow edges on the outer webs. Bill fleshy brown; legs pale brown; irides hazel brown. (*Jerd.*)

*Length*.—7·8 to 8 inches; wing 3·75 to 4; tail 3; tarsus 0·9.

*Hab.*—S.-E. Himalayas, in Nepaul and Sikkim during winter; Jerdon obtained it in near Darjeeling, where it was found frequenting the more open parts of the woods in small parties.

## Sub-Family.—EMBERIZINÆ.

Bill flattened on the sides, smaller and more compressed than in *Passer*, the edges indented or waved—a palatal knob on upper mandible; wings pointed; tarsi moderate, scutate; hind toe longer than inner; tail moderate, even, or emarginate.

Gen. **Emberiza**.

Bill small; second to 4th quills longest; tail rather forked; outermost feather white or whitish.

**859. *Emberiza schœniclus***, Linn., *Syst. Nat.* i. p. 311; *Farrell, Br. B.* i. p. 438; *Hume, Ibis*, 1869, p. 355; *Sharpe, Cat. B. Br. Mus.* xii. p. 457. *Emberiza schœnicola*, *Hume, Ibis*, 1871, p. 38; *C. Swinh, Ibis*, 1882.—The ROSY ORTOLAN.

*Adult Male in breeding plumage*.—General color above rufous, the feathers margined paler, and those of the mantle and back with broad black centres; lower back, rump and upper tail coverts ashy grey, mesially centred with black or pale brown; scapulars, and lesser and median wing coverts chestnut, the

scapulars centred with black and the latter with black bases; greater coverts black with chestnut margins and sandy buff outer edges; bastard wing and primary coverts dusky brown, edged with ashy or pale rufous, which color also fringes the outer webs of the quills, which are blackish; tail dark brown, margined with whitey brown, the outer pairs of feathers white on the outer web, except a dusky mark at the tip; the inner web white at the base only; crown of the head, sides of the face, ear coverts, throat and foreneck black; sides of the neck, a demi collar on the neck, cheek, under tail coverts, axillaries, under wing coverts and under surface of the body white; the sides of the body streaked with black, also the flanks; sides of the breast ashy grey with narrow streaks of black; thighs brown.

*Length*.—6 inches; wing 3; tail 2·6; tarsus 0·75; culmen 0·45.

In winter the upper plumage is rufous chestnut with narrow central black streaks, and the black of the head, throat and neck is fringed with sandy brown.

*The adult female in breeding plumage* has the head reddish brown instead of black, the feathers mesially streaked with black like the back; ear coverts reddish brown; above the eye a streak of sandy buff; cheeks white; hind neck ashy with central black streaks; foreneck rufous and also streaked with black; under surface of body white, the sides streaked with dusky.

*Length*.—5·2 inches; wing 2·9; tail 2·4; tarsus 0·7; culmen 0·45.

*Hab*.—The whole of Europe extending as far as Kamtschatka, reaching in winter to the N.-W. Provinces of India in the Punjab and S. Afghanistan.

**860. *Emberiza pusilla*, Pall., Reis. Russ. Reichs, iii. p. 697; Blyth, J. A. S. B. xv. p. 40; id. Ibis, 1867, p. 42; Gould, B. Asia, v. pl. 7; Hume, Str. F. 1876, pp. 279, 29; Anderson, Zool. Exped. Yunan Aves, p. 604; Hume and Dav. Str. F. 1878, p. 407; Seebohm, Ibis, 1882, p. 379; Oates, B. Br. Burm. i. p. 343; Sharpe, Cat. B. Br. Mus. xii. p. 487. *Ocyris oinops*, Hodg., Icon. ined. in Br. Mus. Passeres, pl. 292.—The DWARF BUNTING.**

Upper plumage streaked with black, rufous and grey; forehead to nape over the crown light chestnut and a similar line over the ear coverts; lores, sides of the face, ear coverts and throat light or vinous chestnut, with a black moustachial line extending behind the ear coverts; hind neck and sides of the neck pale chestnut streaked with whitish; chin and upper throat pale chestnut; lower throat and under surface of the body dull white, streaked with black; under wing coverts and axillaries white; wing coverts brown edged with rufous, the median series broadly tipped with rufous forming a wing bar; bastard wing, primary coverts and quills blackish, fringed on the outer web with brown, the primaries margined with ashy brown and the secondaries with rufous; tail brown or blackish brown edged with lighter brown, the penultimate feathers with a white diagonal or wedge-shaped bar of white on the inner web, the outer pair with a larger band extending to both webs.

In winter the male has the black bands fringed with rufous and the head is not so rufous.

The female in summer is similar to the male in winter, but it wants the chestnut on the throat which is white and bounded by a black moustachial line on both sides. Bill horny; legs pale fleshy; irides brown.

*Length*.—5·25 inches; wing 2·8; tail 2·4; tarsus 0·7; culmen 0·4.

*Hab*.—Northern Europe, wintering in the Himalayas, Assam, Burmah and Tenasserim. Recorded from Nepal, Sikkim, Shillong, Khasia hills, Sylhet, Munipoor and Mooleyit in Tenasserim. It occurs in small flocks in bare spots of ground covered with low bushes. According to Seebohm it breeds in Siberia, building on the ground, amongst dead leaves, a nest made of moss and grass, thickly lined with fine grass. Eggs, 5 in number, pale grey, blotched and spotted with darker and paler grey.

**861. *Emberiza fucata*, Pall., Reis. Russ. Reichs, iii. p. 608; Gm. Syst. Nat. i. p. 871; Fcrd. B. Ind. ii. p. 375; Blyth, Ibis, 1867, p. 42; Beavan, t. c. p. 41; Gould, B. Asia, v. pl. 9; Godwin-Austen, J. A. S. B. 1874, p. 171; Blyth and Wald., B. Burm. p. 95; Hume and Dav., Str. F. 1878, p. 407; Hume, Str. F. 1879, p. 107; Oates, B. Br. Burm. i. p. 351; Sharpe, Cat. B. Br. Mus. xii. p. 493. *Euspiza fucata*, Blyth, J. A. S. B. xxiii. p. 215. *Citrinella fucata*, Hume, Nests and Eggs, Ind. B. p. 465; id. and Oates, Str. F. 1875, p. 157.—THE GREY-HEADED BUNTING.**

*Male in breeding plumage*.—Head, nape and sides of the neck grey, streaked with black; back and mantle reddish brown, also streaked with black; rump uniform reddish brown; upper tail coverts isabelline with dark shaft streaks; tail dark brown, with russet edges on the outer webs; the outer feathers white on the outer web and with a diagonal patch of the same on the inner; the next pair dark brown with a patch of white on the inner web near the tip; lesser and median wing coverts chestnut, the latter with black shaft stripes, the greater series and inner secondaries dark or dusky brown margined broadly on both webs with reddish brown; primaries and secondaries brown, also margined on the outer webs with reddish brown; lores and feathers round the eye greyish brown; ear coverts chestnut; cheeks and a line below the ears white, below which latter again is a thin black line which widens on the neck and forms an interrupted pectoral gorget, below which again is another of chestnut; chin and throat white; under surface of the body isabelline or fawn colour, the flanks streaked with black.

In winter the male has an olive brown head, much mixed with grey; the black gorget line is not so evident and the chestnut streak below is wanting. Bill dark fleshy brown; iris brown.

*Length*.—5·15 to 6·5 inches; tail 2·7; wing 2·8; tarsus 0·8; culmen 0·5.

*Hab*.—Eastern Siberia and Japan. Resident in the N.-W. Himalayas migrating to the Burmese countries and the plains of India during winter.

According to Oates it is a common winter visitor to Pegu, and is said to be found nearly throughout British Burmah and parts of Tenasserim. Breeds under tufts of grass, or under a large stone, making a shallow cup, lined with grasses and hairs. Eggs, 4 in number, greenish grey, marked with reddish brown.

**862. *Emberiza melanocephala*, Scop., Ann. i. p. 142; Tem. Man. & Orn. i. p. 393; Sykes, P. Z. S. 1832, p. 93; Gould, B. Eur. iii. pl. 172; Ferd. Madr. Journ. xi. p. 29; Blyth, J. A. S. B. xiii. p. 957; Sharpe, Cat. B. Br. Mus. xii. p. 503. *Euspiza melanocephala*, Bp. Comp. List B. Eur. and N. Amer. p. 32; Blyth, Cat. B. Mus. As. Soc. p. 128; Bp. Consp. i. p. 488; Ferd. B. Ind. ii. p. 378; Gould, B. Asia, v. pl. 13; James, Str. F. 1871, p. 421; Brooks, Ibis, 1873, p. 246; Buller, Str. F. 1875, p. 397; Blanf. E. Pers. ii. p. 260; Fairbk. Str. F. 1876, p. 261; James, Str. F. 1877, p. 61; Hume, Str. F. 1879, p. 107; Murray, Vert. Zool. Sind, p. 188; id. Zool. of Beloochistan and Afgh. p. 23; Swinhoe and Barnes, Ibis, 1885, p. 129. *Euspiza simillima*, Blyth, J. A. S. B. xviii. p. 818; Hume, Nests and Eggs, Ind. B. p. 466.—The BLACK-HEADED CORN BUNTING.**

*Male*.—Whole head, feathers under the eye and ear coverts black; in winter edged with yellowish or greyish brown; chin, throat, sides of the neck, and entire under surface bright yellow; sides of the breast chestnut; back and scapulars rich chestnut; rump and upper tail coverts yellowish with a faint tinge of chestnut on some of the feathers; wing coverts dark brown, the feathers edged and tipped with fulvous; primaries, secondaries and tertiaries brown, the primaries and secondaries narrowly, and the tertiaries broadly margined with fulvous; edge of the wing bright yellow; tail brown, the feathers edged paler. The *female* is yellowish brown above, the feathers of the head and back with mesial dark streaks; the chin whitish, and the rest of the under surface very pale yellow; bill and legs yellowish brown; irides light brown.

*Length*.—7·5 to 8 inches; wing 3·8 to 4; tail 3; bill at front ·5; tarsus 1·0.

In winter plumage the feathers of the male is obscured by ashy margins to the feathers of the head and the back, nearly obscuring the black and chestnut of these parts.

*Hab*.—Sind, Punjab (at Mooltan and Montgomery), Beloochistan, Persia, Afghanistan, Kutch, Kattiawar, Jodhpore, N. Guzerat, Concan and Deccan. Found outside of India, in Turkey, Asia Minor and S. E. Europe. Arrives in large flocks in the middle of August, and during their stay till October commits great havoc in the barley and jowaree crops.

**863. *Emberiza luteola*, Sparrman, Mus. Carls. fasc. iv. Taf. 93; Sharpe, Cat. B. Br. Mus. xii. p. 505. *Euspiza luteola*, Blyth, Cat. B. Mus. As. Soc. p. 127; Bp. Consp. i. p. 469; Ferd. B. Ind. ii. p. 378; Hume, Str. F. iii. p. 498; id. Str. F. 1879, p. 107; Murray, Vert. Zool. Sind, p. 188.—The RED-HEADED BUNTING.**



Head, neck, chin, throat and breast rich chestnut; sides of the breast greenish yellow; back and scapulars greenish yellow, the feathers mesially streaked with dark brown; the whole under surface including the under tail coverts bright yellow; wing coverts dark brown, broadly edged and tipped with fulvous; primaries, secondaries and tertiaries brown with fulvous edgings, broader on the tertiaries; tail brown, the outermost feather on each side much paler, and the rest edged with greenish; edge of the wing yellow. The female wants the chestnut of the head, chin, throat and breast; the upper surface is olive brown, and the under surface very pale fulvous; bill and legs yellowish brown.

*Length*.—6.75 to 7; wing 3.5; tail 3; bill at front 0.5.

The female in summer plumage is light ashy brown above, streaked with blackish shaft lines, the head like the back and the hind neck more uniform; wings and tail as in the male.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, E. Turkistan, Punjab, N.-W. Provinces, Oudh, Kutch, Katiawar, Jodhpore, Jeypore, N. Guzerat, Concan, Deccan and Southern India, also Khandeish and Central India.

The adult male in winter is not unlike the male in summer, but like the preceding has ashy brown edges to the feathers, which obscure the summer plumage, even the yellow rump.

**864. *Emberiza aureola*, Pall., *Reis. Russ. Reichs*, ii. p. 711; *Gm. Syst. Nat.* i. p. 875; *Tem., Man. d'Orn.* iii. p. 232; *Gould, B. Eur.* iii. pl. 174; *Oates, B. Br. Burm.* p. 355; *Sharpe, Cat. B. Br. Mus.* xii. p. 510. *Emberiza aureola*, *Bp. Comp. List, B. Eur. and N. Amer.* p. 36; *Ferd., B. Ind.* ii. p. 380; *Hume, Str. F.* 1874, pp. 258, 481; *Oates, Str. F.* 1875, p. 159; *Blyth and Wald., B. Burm.* p. 94; *Godwin-Austen, J. A. S. B.* xlv. p. 83; *Hume and Dav., Str. F.* 1878, p. 409; *Hume, Str. F.* 1879, pp. 67, 107; *Scully, t. c.* p. 334; *Bingham, Str. F.* ix. p. 193. *Emberiza flavogularis*, *Blyth, J. A. S. B.* xviii. pp. 86, 811.—The YELLOW-BREASTED BUNTING.**

Crown of the head, back, rump and scapulars rich chestnut, margined or not with faint yellowish white; forehead, sides of the head, chin and upper throat black; lesser wing coverts smoky brown; the median series white, and the greater ones chestnut, edged with white near the tips; quills brown, the primaries edged on the outer webs with whitish brown, and the rest with pale chestnut; upper tail coverts pale rufous brown; tail brown, edged paler, the outer web of the outer feathers white for two-thirds of its length from the base, and the inner web with a diagonal streak of white; the next feather generally with a small obscure mark of white on the inner web; lower throat, breast and abdomen bright yellow; a band of chestnut feathers across the breast slightly fringed with black; sides of the body yellow with brown streaks; vent and under tail coverts pale yellow, with a few obscure streaks. (*Oates*.)

During winter the male has no black on the head; the upper plumage is chestnut with very broad greyish yellow fringes; the ear coverts are purplish brown marked with yellow; the chin and throat are deep yellow like the breast and abdomen; the pectoral band becomes obscure by the yellow fringe to the feathers, and the greater coverts are rufous instead of white.

The female at all seasons has the head chestnut brown, streaked with dark brown; the nape, back of the neck, back and scapulars olive brown more or less tinged with chestnut brown and with dark brown streaks; rump pale chestnut edged with grey; upper tail coverts brown centred darker; all the wing coverts and quills brown, the median series broadly tipped with white and the greater ones and quills edged on the outer webs with pale rufous brown; supercilium reaching to the nape yellowish white; chin and throat whitish; breast, sides of the neck and abdomen bright yellow, tinged with brown across the breast; vent and under tail coverts pale yellow; iris rich brown; upper mandible dark brown; lower fleshy brown; feet and claws pinkish brown.

*Length*.—5·75 to 6·2 inches; wing 3; tail 2·4; tarsus 0·85.

*Hab*.—Northern Europe and Siberia, wintering in the Burmese countries. Found in Nepaul, Assam, Sikkim, Cachar, Munipur, Pegu, Bhamo, Johore and the Nicobars. It is a winter visitor to the whole of Burmah, arriving in October and leaving in May. Like the last it affects corn crops. The nest is said to be placed on or near the ground. It is made of dry bents and lined with hair. Eggs, 4—6, greenish, clouded with purplish grey and marked with some dark scrawls.

**865. *Emberiza rutila*, Pall., Reis. Russ. Reichs. iii. p. 698; Blyth, B. Burm. p. 95; Dav. et Oust. Ois Chine, p. 331; Wardlaw-Ramsay, Ibis, 1877, p. 462; Oates, Str. F. x. p. 234; Sharpe, Cat. B. Br. Mus. xii. p. 514. *Euspiza rutila*, Bp. Consp. i. p. 469; Hume and Dav. Str. F. 1878, p. 408; Hume, Str. F. 1879, p. 107. *Citrinella rutila*, Hume, Str. F. 1875, p. 117.—**The CHESTNUT BUNTING.

Entire head and upper breast and the whole upper plumage including the wing coverts chestnut, the feathers except those of the rump fringed with olive greyish; primaries, secondaries and primary coverts brown, the primaries edged on the outer webs with ashy and the inner secondaries with chestnut; tail brown, margined with olive or lighter brown, the two outer feathers with a small whitish mark near the tip on the outer web; foreneck chestnut, rest of under surface of the body sulphur yellow; the thighs and under tail coverts sulphur yellow; sides of the body and flanks olive greenish, streaked with dusky; axillaries and under wing coverts yellowish white, the bases yellow. Legs and feet grey; iris brownish rufous.

*Length*.—5 inches; wing 2·95; tail 2·25; tarsus 0·7; culmen 0·45.

The female has the top of the head, neck, back, and scapulars olive brown, broadly streaked with black on the mantle and back; hind neck the same but

less distinctly streaked; rump and upper tail coverts chestnut, the latter duller and tinged with grey; wing coverts and quills dark brown edged and tipped with dirty white; lores, feathers round the eye, and a faint eyebrow isabelline; ear coverts pale ashy brown with a streak of blackish along the upper margin; cheeks, chin and throat fulvous brown, separated by a dark brown narrow malar line; under surface of the body pale sulphur yellow, the breast with a few indistinct dusky streaks.

*Length*.—4·5 inches; wing 2·65; tail 1·85; tarsus 0·7; culmen 0·45.

The young male is not unlike the female except that the head and rump are chestnut.

*Hab.*—E. Siberia and N. and S. China, where as well as in the Indo-Burmese countries and the S.-E. Himalayas it winters. In Burmah it has been got in Pegu and near Rangoon. It is also recorded from Sikkim, and the Bhootan Doars.

**866. *Emberiza spodocephala*, Pall., *Reis. Russ. Reichs.* iii. p. 698; *Bp. Consp.* i. p. 465; *Dav. et Oust. Ois. Chine*, p. 329; *Jerd. B. Ind.* ii. p. 374; *Hume, Str. F.* 1879, p. 107; *Seebohm, Ibis*, 1880, p. 188; *Sharpe, Cat. B. Br. Mus.*, xii. p. 522. *Emberiza melanops*, *Blyth, J. A. S. B.* xiv. p. 554.—THE BLACK-FACED BUNTING.**

Head and neck all round, sides of the face, throat and chest olivaceous ashy; lores, base of cheeks and chin black; breast pale sulphur yellow; upper back and scapulars brown washed with rufous, edged with fulvous and broadly streaked mesially with black; lesser wing coverts uniform rufescent; median and greater series blackish brown edged with sandy brown and tipped with buffy white; quills dusky brown, externally washed with rufous, the primaries with ashy white; lower back, rump and upper tail coverts earthy brown; tail dark brown, edged with lighter brown, the centre tail feathers light brown, the penultimate with a large wedge-shaped spot of white near the end of the outer web, and the outer feathers entirely white except a dusky mark on the inner web, and a spot near the tip of the outer web; abdomen whitish; under tail coverts and axillaries pale sulphur yellow; bill brown; feet flesh colour.

*Length*.—4·75 inches; wing 2·7; tail 2·7; tarsus 0·75; culmen 0·45.

The winter plumage of the male is not unlike that of the summer, except being more olive yellow on the head and neck and the feathers of the crown tipped with rufous brown. The female is browner on the head than the male, there is no black on the face or chin, the cheek stripe is yellow and there is a distinct malar streak of dusky blackish spots; the lores, eyelids and an indistinct supercilium are yellowish buff; sides of the body and flanks reddish brown; lower abdomen and under tail coverts yellowish white.

*Hab.*—Eastern Himalayas, Assam, Bhootan, Nepaul, Cachar and Munipur, where it winters. Breeds in Siberia eastwards from the Yenesai Valley.

**867. *Emberiza Buchananii*, Blyth, J. A. S. B. xiii. p. 957; xvi., p. 780; Hume, Str. F. 1878, vol. ii. p. 150; id., Str. F. 1879, p. 107; Reid, Str. F. 1881, p. 57. *Emberiza huttoni*, Jerd., B. Ind. ii. p. 373; Blyth, Ibis, 1867, p. 42; Blanford, t. c. p. 463; Hume, Ibis, 1870, p. 400; Blanford, East. Pers. ii. p. 258; Murray, Vert. Zool. Sind, p. 185.—The GREY-NECKED BUNTING.**

Head, neck, nape, and sides of the neck grey; from the lower corner of the under mandible on each side is a short streak of buffy, between which and the chin—which is also buff—is a streak of greyish, meeting the grey of the sides of the neck; orbital feathers whitish; back grey, with a slight rufescent tinge, the feathers being faintly striated; rump and upper tail coverts greyish brown, unstriated; breast and rest of lower surface reddish brown or ferruginous, paler on the abdomen and vent, and nearly buff on the under tail coverts; lesser coverts ferruginous; median and greater coverts brown, edged with ferruginous; primaries dull brown, margined narrowly on their outer, and broadly on their inner web with pale white or rufescent white; secondaries the same, but the feathers also tipped with pale rufous; edge of the wing fulvous; tail blackish brown, the outer web of the outermost feather, except at the extreme base, and half of the inner web, white; the next outermost blackish brown on the outer web, and for nearly two-thirds its length on the inner web, blackish brown, the rest white on their *inner web only*; centre tail feathers edged with pale rufous; bill reddish; legs pale brown.

*Length*.—5·75 to 6 inches; wing 3·5; tail 3; tarsi ·75.

*Hab.*—Sind, Punjab, N.-W. Provinces, Central India, Beloochistan, Persia and Afghanistan. Occurs also in Kutch, Rajputana, Guzerat, Concan and the Deccan.

Specimens from Jeempeer and Jacobabad (Sind), and Quetta and Dozan (Beloochistan), have the chin and the streak above the greyish moustachial line unspotted buff, except in a single specimen from Dozan.

**868. *Emberiza stracheyi*, Moore, P. Z. S. 1855, p. 215, pl. 112; Horsf. and Moore, Cat. B. E. I. Co. Mus. ii. p. 483; Jerd., B. Ind. ii. p. 372; Brooks, Str. F. 1875, p. 254; Hume, Str. F. 1879, p. 107; Wardlaw-Ramsay, Ibis, 1880, p. 65; Biddulph, Ibis, 1881, p. 79; Marshall, Ibis, 1884, p. 419. *Emberiza Cia* (nec. L.), Jerd., B. Ind. ii. p. 371; Beavan, Ibis, 1868, p. 175; Cock and Marsh, Str. F. 1873, p. 357.—The WHITE-NECKED BUNTING.**

Above rufescent brown with black mesial streaks; the rump and upper tail coverts unstreaked; crown of the head pale bluish grey, with a broad band of black on either side of the crown; supercilium ashy white; lores and eyelids black, continued as a streak over the ear coverts which are ashy whitish and separated from the throat by a streak of black, which meets the other black line; *median and greater wing coverts tipped with rufous but not forming*

*distinct wing bars as in E. Cia*; quills blackish, the primaries margined with ashy whitish, the secondaries with pale rufous, the inner ones being rufous on the inner webs also; middle tail feathers pale rufous, black in the centre, the remainder blackish, edged with sandy rufous, the penultimate feather with a large wedge-shaped mark of white at the tip of the inner web, larger on the outermost, which is also externally margined with white; under surface of the body pale cinnamon rufous washed with isabelline. Bill dark brown or black, the base of the lower mandible bluish; legs and feet fleshy brownish; iris dark brown.

*Length*.—6 to 6·8 inches; wing 3·1; tail 2·85; tarsus 0·7; culmen 0·5.

*Hab*.—From Eastern Beloochistan and Cashmere eastwards to Kumaon, wintering slightly to the southward. It is found plentifully in Gilgit, also at Dhurmsala, Murree, Kotegurh, Simla, Mussoorie, and Bhawalpore in Sind, also at Mutiana in the Punjab.

**869. *Emberiza stewarti***, *Blyth, J. A. S. B.* xxiii. p. 215; *Horsf. and Moore, Cat. B. E. I. Co. Mus.* ii. p. 485; *Ferd., B. Ind.* ii. p. 374; *Hume, Ibis*, 1870, p. 400, *Cock and Marsh, Str. F.* 1878, p. 112; *Hume, Str. F.* 1879, p. 107; *Murray, Str. F.* 1878, p. 112; *id., Vert. Zool. Sind*, p. 185, *Sharpe, Cat. B. Br. Mus.* xii. p. 547. *Citrinella stewarti*, *Hume, Nests and Eggs, Ind. B.* p. 465.—The WHITE-CAPPED BUNTING.


*Male*.—Forehead and crown greyish white; lores and a broad supercilium extending to the nape black; chin and throat black; back, scapulars, rump, upper tail coverts, flanks, and a broad band across the chest reddish chestnut; the feathers of the back in some specimens with a mesial dark streak; cheeks and ear coverts white; breast, belly and under tail coverts greyish white or rufescent white; the under tail coverts with dark mesial streaks; wing coverts dark brown, edged with fulvous, or buffy brown; primaries and secondaries pale brown, the primaries edged whitish, and the secondaries fulvous brown; tail dark brown, the outermost feather on each side white on the outer web; the shaft dark brown, the white of the inner web running obliquely from about one-fourth its length at the base; the next like the outermost, but with the outer web dark brown, and narrowly edged with white. The *female* is olive brown above, the feathers with dark mesial streaks; upper tail coverts tinged rufescent; under surface fulvous or buffy brown, the feathers mesially streaked with dark brown; bill and legs pale brown.

*Length*.—6 inches; wings 3 to 3·1; tail 2·75; tarsus 0·7.

*Hab*.—Sind, Punjab, N.-W. Provinces, N.-W. Himalayas, Beloochistan and Southern Afghanistan. Uncommon in Sind, and occurs less abundantly in the Southern Districts during winter.

**870. *Emberiza leucocephala***, *Gm., N. Comm. Acad. Sci. Imp. Petrov.* xv. p. 480, *tab.* xxiii. p. fig. 3; *Sharpe, Cat. B. Br. Mus.* xii. p. 549.

*Emberiza pithyornis*, Gm., *Syst. Nat.* i. p. 875; *Horsf. and Moore, Cat. B. E. I. Co. Mus.* ii. p. 482; *Blyth, Ibis*, 1868, p. 355; *Ferd., B. Ind.* ii. p. 370. *Emberiza albida*, *Blyth, J. A. S. B.* xviii. pl. 2.—The WHITE-CROWNED BUNTING.

Above cinnamon rufous, the back and mantle streaked with black; the hind neck and sides of the neck, also the lower back, rump and upper tail coverts unstreaked rufous; crown of the head white, bounded on either side by a broad black band; base of forehead washed with rufous; lores and eyebrow chestnut; chin, throat and a moustachial line rich vinous chestnut, middle of throat with a triangular patch of white; chest, sides of the body and flanks chestnut, the flanks narrowly streaked with black; breast, abdomen, thighs and under tail coverts white; median coverts rufous, their bases black and  margins whitish; the greater series blackish edged with white brown and tipped with whitish; bastard wing and primary coverts blackish; quills blackish, edged with ashy white; the secondaries edged with brown and the innermost rufous on their outer webs; tail feathers blackish, edged with white brown, the penultimate one with a large wedge-shaped mark of white at the tip of the inner web, which is much larger on the outermost feather and entirely white on the outer web; axillaries and under wing coverts white, the latter with dusky bases; upper mandible dark brown, the lower one yellowish brown; feet pale yellowish; iris dark brown.

*Length*.—6 to 6·5 inches; wing 3·75; tail 3·15; tarsus 0·75; culmen 0·5.

*Hab*.—Siberia, extending to the Himalayas. Found in Cashmere, Mussoorie, Dehra-Doon, Simla, and Quetta in Southern Afghanistan.

*Miliaria miliaria* has once occurred in Sind during an extremely severe winter, but the question is, should such a straggler find a place among the birds proper of India. I think not, and hence do not include it. It occurs in the Persian Gulf as low down as Bushire.

#### Gen. *Fringillaria*.—Swains.

Bill longer than in *Emberiza* and pointed; 1st long primary longer than the inner secondaries; tail without any white pattern on it.

**871. *Fringillaria striolata***, Licht., *Verz. Doubl.* p. 24; Swains., *Classif. B.* ii. p. 290; Bp., *Consp.* i. p. 467; Hume, *Nests and Eggs Ind. B.* p. 463; Adams, *Str. F.* 1873, p. 388; Hume, *t. c.* p. 420; *id.*, *Str. F.* 1877, p. 329; 1878, vol. ii. p. 74; Sharpe, *Cat. B. Br. Mus.* xii. p. 561. *Emberiza striolata*, *Cretzschm in Rupp. Atlas*, p. 15, pl. 10, fig. 9; Dresser, *B. Eur.* iv. p. 197, pl. 213; Butler, *Str. F.* 1876, p. 35; Blanf., *E. Pers.* ii. p. 258; Hume, *Str. F.* 1878, vol. ii. pp. 111, 410; 1879, p. 107; Murray, *Vert. Zool. Sind*, p. 186.—The STRIOLATED BUNTING.

"*Male*.—Forehead, top of the head and nape greyish white, grey or white in different specimens, each feather with a conspicuous linear median black streak; a narrow, pure white superciliary stripe starting from the base of the bill and extending behind the eye over the ear coverts; the lores and a moderately broad stripe directly behind the eye (and immediately under the white stripe), involving the upper portions of the ear coverts black; below this another greyish white stripe, involving the rest of the ear coverts; below this, starting from the base of the lower mandible, a greyish white stripe, which is again divided from the greyish white of the chin by a narrow inconspicuous dark streak. In the fresh birds in breeding plumage all these streaks and stripes are as clearly and sharply defined as if painted; but at other seasons and in stuffed specimens they are not so clear; the whole of the back, scapulars, and tertials are hair brown, the former two very broadly, the latter more narrowly margined with pale more or less sandy, or even rufous brown; in many specimens the darker median streaks of the back feathers are reduced to mere lines, and in some the rufous tinge on the upper back is well marked; the primaries and secondaries and their coverts are a mixture of hair brown and rich rufous (recalling in colour the wings of *Mirafr erythroptera*), the extent of each varying in different specimens, but the brown predominating in the earlier primaries and everywhere at the tips, and decreasing in extent in the hinder part of the wing and towards the bases of the feathers; the second primary for instance will be all brown, except a narrow rufous edging for the basal two-thirds of the outer web and a broad rufous stripe on the margin of the inner web for the same distance, while one of the later secondaries will be all rufous, except a narrow brown stripe running down the shaft till within one-third of the end of the feather, whence it gradually widens so as to occupy the tip and the whole of both webs; the rump and upper tail-coverts are much the same as the back, but in some specimens slightly more rufous than the lower back, and the longest of the coverts are in some specimens very narrowly tipped with very pale fulvous white; the tail is hair brown, darker than the brown portion of the quills; all the feathers externally very narrowly margined with pale rufous, except the external feather on each side, which has the whole outer web of that colour; the throat and upper breast are greyish white or grey, with more or less numerous and conspicuous black median stripes on the feathers. Specimens differ widely in this respect; in some the greyish white is a mere edging to dusky black feathers; in others only a few black spots and streaks peep out of an almost unbroken grey, and this among specimens killed at the same time and of apparently the same age; the lower breast and the whole lower parts of the body are pale greyish rufous, all the bases of the feathers (only seen if the tips are lifted) being a sort of bluish dusky; the axillaries, wing lining, and in fact the whole lower surface of the wings, except the points of the quills, a pale delicate salmon rufous.

"The *female* only differs in being generally somewhat smaller, in having the white, grey, and black of the head, neck, throat and breast much duller (and in many specimens overcast with a sandy or pale rufous shade), the various stripes being less well marked, and in having the dark spots and streaks of the throat and breast almost obsolete."

	Male.	Female.
<i>Length</i> .....	5.75 to 5.97	5.5 to 5.9
<i>Expanse</i> .....	9.37 „ 9.75	9 „ 9.5
<i>Tail from vent.</i> .....	2.45 „ 2.75	2.2 „ 2.72
<i>Wing from carpal joint to tip of longest primary</i> .....	2.96 „ 3.1	2.87 „ 2.96
<i>When closed reaching within</i> .....	1.1 to 1.3	1.1 „ 1.7 of the end of tail.
<i>Foot</i> .....	1 „ 1.1	1.1 „ 1.17
<i>Width</i> .....	.63 „ .8	.72 „ .8
<i>Bill at front</i> .....	.36 „ .39	.35 „ .38

Legs and feet were in some pale waxy yellow, in some dingy, in some fleshy yellow or yellowish fleshy. The feet, especially at the joints, more or less tinged with brownish; the claws rather pale brown; the bill had the upper mandible brown, in some blackish brown; the lower in some waxy, in some fleshy, and in some dingy yellow; irides brown.—(*Hume, Ibis*, 1869.).

*Hab.*—Sind, Punjab, N.-W. Provinces, and Beloochistan, affecting sandy plains; also Rajputana, Kutch and Guzerat. In Sind, chiefly the barren hills, during winter.

#### Gen. *Melophus*.—*Swains.*

Head crested; upper mandible ridged and slightly notched at tip.

**872. *Melophus melanicterus* (Gm.).** *Bp., Consp.* i. p. 470; *Ferd., B. Ind.* ii. p. 381; *Hume, Nests and Eggs Ind. B.* p. 467; *id., Str. F.* 1873, p. 47; *Cock and Marsh., t. c.* p. 357; *Blyth and Wald., B. Br. Burm.* p. 95; *Hume, Str. F.* 1875, p. 254; *Wardlaw-Ramsay, Ibis*, 1877, p. 462; *Hume and Dav., Str. F.* 1878, p. 409; *Murray, Str. F.* 1878, vol. ii. p. 113; *Oates, B. Br. Burm.* p. 357; *Murray, Vert. Zool. Sind*, p. 189; *Sharpe, Cat. B. Br. Mus.* xii. p. 569. *Fringilla melanictora*, Gm., *Syst. Nat.* i. p. 910. *Melophus erythropterus*, *Swains, Classif. B.* ii. p. 29. *Euspiza lathami*, *Blyth, Cat. B. Mus. As. Soc.*, p. 129.—THE CRESTED BLACK BUNTING.

Entire head, neck, back, scapulars, rump, upper tail coverts, chin, throat, breast, and under surface, including the under tail coverts, glossy black, unglossed on the latter; lesser wing coverts black; median and greater series, primaries, secondaries and tail dark cinnamon; the primaries, secondaries and tail feathers tipped dusky brown; bill pale brown, darkish on the upper mandible; legs reddish brown; irides dark brown.



*Length*.—6·5 inches ; wing 3·25 ; tail 2·75 ; bill at front 0·5. The *female* is dusky brown, the feathers edged paler ; under surface rufescent white ; wings duller or pale cinnamon.

*Hab.*—Sind, Rajputana, Northern Guzerat, Concan, Deccan, Nepaul and Tenasserim ; also Central and Southern India.

Breeds in parts of the Central and N.-W. Provinces and the Punjab ; also at Mount Aboo, in Guzerat and throughout the Himalayas. The breeding season, according to Hume, extends from April to June in the Himalayas and July to August in the plains. The nest is placed in holes in banks or walls, under some overhanging clod or rock, or concealed in some thick tuft of grass. Eggs, 3—4, pale greenish white, thickly speckled, freckled, and spotted with red, purple or purplish brown, more dense at the larger end.

### Sub-Family.—PLOCEINÆ,—WEAVER BIRDS.

Bill thick at base, with the keel projecting on the forehead and arched to the tip ; wings rounded ; 1st quill very short ; tarsi and toes strong, scutate ; hind toe long and strong.

**873. *Ploceus phillipinus*,** *Jin., Syst. Nat.* i. 305 ; *D'Aub. P. E.* 135, 2 ; *Reich.-Sing.* t. 36, 283. *Ploceus phillipensis*, *Briss., Orn.* iii. 232, pl. xii. f. i. *Ploceus maculata*, *P. L. S. Mull. Suppl.* 150 ; *ex P. E.* ; *Hume, Str. F.* vi. 399. *Ploceus baya* (*Blyth*), *apud Ferd. B. Ind.* ii. 343, No. 694 ; *Murray, Hdbk., Zool., &c., Sind*, p. 176.—THE COMMON WEAVER BIRD.

*Adult Male in Breeding Plumage.*—Forehead, crown, sides of the neck and breast bright yellow ; lores, sides of the face, ear coverts, chin and throat dull brown, paler on the chin ; back brown, the feathers with yellow edgings ; rump paler brown, edged lighter ; upper tail coverts a dirty buff colour or rufous white ; wing coverts dull brown, the greater series and the primary coverts narrowly edged with greyish white ; primaries, secondaries and tertiaries dull brown, the primaries with a narrow edging of pale yellow on their outer webs, also on the secondaries ; tertiaries broadly edged yellowish white ; tail dull brown, the feathers faintly and narrowly edged with yellowish green ; abdomen, vent and under tail coverts dull white, also the thigh coverts ; the middle of the abdomen and thigh coverts tinged yellowish ; edge of the wing fulvous white. Bill black ; irides brown ; legs yellowish brown.

*Length*.—5·5 inches ; extent 8·5 ; wing 2·75 ; tail 1·75 ; bill at front 0·6. The *female* is like the male, but wants the yellow crown and breast, and the chin and throat are whitish or rufous white.

*Hab.*—Throughout India to Ceylon, Assam, Burmah and Nepaul. Common everywhere in Sind with the two next species, as well as in the Punjab, N.-W. Provinces and Bengal, also Central and Southern India, the Concan and Deccan, Kutch, Kattiawar, Jodhpore and N. Guzerat. Breeds freely in company with *manyar* and *bengalensis*. Nest non-pensile, being attached to the

upper stalks of reeds, with the leaves interwoven, and smaller than that of *bengalensis* or *manyar*, less large in the body, and generally with a long and narrow tubular entrance. The unfinished-like nests are inhabited by the males. Breeds wherever found from April to June. Eggs white, 3, 4 or 5 in number. All the species of this genus are taken young by natives, and taught to perch on the hands and to perform various feats.

**874. *Ploceus baya*, Blyth, *J. A. S. B.* xiii. p. 945; *Jerd., B. Ind.* ii. p. 343 (part); *Blanford, J. A. S. B.* xli. pt. ii. p. 167; *Hume, Nests and Eggs Ind. B.* p. 436 (part); *Hume, Str. F.* iii. p. 153; *Hume and Davison, Str. F.* vi. p. 398; *Hume, Str. F.* vii. p. 120; *Oates, B. Br. Burm.* i. p. 360. *Ploceus philippinus*, *apud Blyth, B. Burm.* p. 92; *Oates, Str. F.* v. p. 160. *Ploceus megarhynchus*, *Hume, Str. F.* iii. p. 406; *id., Str. F.* vi. p. 400.—The BAYA.**

*Male in Summer*.—Forehead and top of head yellow; plumage of the upper surface of the body, including the wings and tail, dark brown edged with fulvous, the rump and upper tail coverts being almost uniform fulvous; sides of the head, chin and throat blackish brown; breast and under surface of the body rusty, brightest on the breast and palest on the abdomen. Bill black; inside of mouth flesh colour; eyelids grey; iris dark brown; legs flesh colour.

*Length*.—5·5 to 5·7 inches; wing 2·8; tarsus 0·9; bill from gape 0·7.

*Hab.*—British Burmah, where, according to Oates, it is found abundantly over the plains and lower hills. It ranges through the Indo-Burmese countries into Bengal, Sikkim and Nepaul. In the Peninsula it is represented by *P. philippinus*. Dr. Tiraud states it is found in Cochin-China, also in the Malay Peninsula and Sumatra. These birds associate in large flocks at all seasons of the year, and are commonly found in rice and corn fields in company with various Buntings, also Sparrows and Amadinas.

They breed under the eaves of houses, or on trees, make a large flask-shaped structure of grass, the admittance to the inside of which is from a long narrow tube about 18 inches in length. The breeding season, according to locality, is from April to September, and from 10 to 50 pairs of birds breed in company. Eggs 2—3 in number, glossless white, typically rather long ovals, pointed toward one end or at both ends, varying in size from 0·75 to 0·9 × 0·52 to 0·62.

**875. *Ploceus manyar*, Horsf., *Trans. Lin. Socy.* xiii. p. 160; *Hume, Str. F.* vi. p. 399; *Jerd., B. Ind.* ii. p. 348; *Hume, Nests and Eggs Ind. B.* p. 440; *Blyth, B. Burm.* p. 92; *Oates, Str. F.* v. p. 160; *Hume, Str. F.* viii. p. 106; *Legge, B. Ceylon*, p. 646; *Murray, Vert. Zool. Sind.* p. 181; *Oates, B. Br. Burm.* i. p. 360. *Euplectes striatus*, *Blyth, J. A. S. B.* xi. p. 873.—The STRIATED WEAVER BIRD.**

*Adult Male in Breeding Plumage.*—Forehead and crown bright golden yellow; lores, cheeks, chin and throat and sides of the neck blackish or sooty brown; back, rump and upper tail coverts brown, the feathers edged with fulvous white; wing coverts, primaries, secondaries and tertiaries concolorous with the back, the primaries edged yellowish, and the secondaries, wing coverts and tertiaries whitish or fulvous white; tail brown, the feathers edged greenish; breast and flanks fulvous white, with mesial dark streaks; abdomen and under tail coverts white, tinged fulvous; bill black; irides brown; legs pale brown.

*Length.*—5·8 inches; wing 2·75; extent 9; tail 1·75; bill at front 0·56. *Females* and males in non-breeding plumage want the yellow head, and have a pale supercilium, and the chin and throat are whitish.

*Hab.*—Northern and Central India to Assam and Burmah. Occurs in Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Deccan, Concan, Travancore, Kutch, Kattiawar and N. Guzerat. Breeding season same as the last. The nest is generally suspended from the top of four or five leaves of high bulrush or elephant grass, which are also incorporated into the nest. The entrance tube is not as long as that of *P. baya*.

**876. *Ploceus bengalensis* (Linn.),** *Ferd., B. Ind.* ii. p. 349; *Hume, Nests and Eggs Ind. B.* p. 441; *Blyth, B. Burmah* p. 92; *Hume, Str. F.* viii. p. 107; *Oates, Str. F.* x. p. 231; *Murray, Vert. Zool. Sind*, p. 181; *Oates, B. Burm.* i. p. 361.—THE BLACK-THROATED WEAVER BIRD.

*Adult Male in Breeding Plumage.*—Forehead and crown bright golden yellow; cheeks, ear coverts, sides of neck and throat white, more or less suffused with dusky; a dark brown pectoral band; back dusky brown; rump and upper tail coverts greyer; wings and tail dark brown, the coverts and secondaries with pale margins; body below fulvous white; flanks brownish. The female has the head dusky brown and unstreaked, the feathers of the back edged with pale rufous or fulvous; a pale yellow supercilium and a spot of the same colour behind the ear coverts; a small dark stripe at the base of the bill on each side; the throat yellowish, with a few dark spots; bill white; irides light brown; legs fleshy brown.

*Length.*—5·5 to 6 inches; wing 2·75; tail 1·75.

*Hab.*—Lower Bengal, extending into Assam and parts of Burmah. Occurs also in Sind; not known from the Punjab and N.-W. Provinces.

**877. *Ploceus Javanensis* (Less.),** *Blyth, B. Burm.* p. 91. *Loxia Javanensis, Less., Traite d'Orn.* p. 446. *Fringilla phillipinus (Linn), apud. Horsf. Trans. L. Soc.* xiii. p. 160. *Ploceus hypoxanthus (Daud.), Hume, Nests and Eggs Ind. B.* p. 442; *id., Str. F.* iii. p. 154. *Ploceëla javanensis, Oates, Str. F.* v. p. 160; *Hume, Str. F.* viii. p. 107; *Oates, Str. F.* x. p. 231. *Ploceëla chrysea, Hume, Str. F.* vi. p. 399 (footnote).—THE GOLDEN WEAVER BIRD.

Chin, throat, cheeks and ear coverts black; forehead, top of head and lower plumage bright yellow; back and scapulars black, each feather broadly margined with yellow; rump and upper tail coverts bright yellow; wings and tail brown, margined with yellowish white. Bill black; lower mandible dark horn; iris brown; legs pinkish flesh colour.

*The Female in Summer and both Sexes in Winter* have the whole lower plumage with the cheeks and supercilium rusty, paling on the abdomen; upper plumage brown with broad yellowish brown margins; tail and wings brown, margined with yellowish white. (*Oates.*)

*Length.*—5·5 to 5·7 inches; wing 2·7; tail 2·3; tarsus 0·8; bill from gape 0·55.

*Hab.*—British Burmah, also Siam and Cochin-China and the Islands of Java and Lombock.

Oates says the stronghold of the Golden Weaver Bird lies in the large plains of Southern Pegu, where it is extremely abundant. During winter they associate with other species of Weaver birds, but in summer they break up, and separate into small groups and keep apart. The nest he adds is a cylindrical structure made entirely of grass with an opening at the side, and is attached to the tops of elephant grass. The eggs differ from other species of Weaver birds; they are 2—3 in number, and vary much in colour, being white, greenish white or grey, or purplish unmarked, or speckled with grey or greenish brown. The normal number is three, but two is common.

### Sub-Family.—ESTRELDINÆ.

Bill large, conic, more or less bulged or slender; wings short, rounded; the 1st primary minute as in *Ploceus*.

### Gen. *Amadina*.—*Swains.*

Bill thick, as long as deep; culmen arched; prolonged behind on the forehead; tarsi stout, moderate. These birds inhabit grassy or reedy ground and cultivation generally, feeding on rice, grain and other seeds.

**878. *Amadina malacca* (Lin.), *Ferd.*, *B. Ind.* ii. p. 352, No. 697. *Loxia malacca*, *Lin.*, *Syst. Nat.* i. p. 300; *Edward, Birds*, pl. 356, fig. 2.—The BLACK-HEADED MUNIA.**

Head, neck and breast rich black; back, wings and tail pure cinnamon red, the upper tail coverts brighter, tinged with a glistening lustre; under surface of the body from below the breast white; middle of abdomen and vent black. Bill bluish, the tip yellowish; irides dark brown; legs plumbeous.

*Length.*—4·5 inches; wing 2·6; tail 1·5.

The young is pale cinnamon brown above, whitish below, and dusky about the head and neck.

*Hab.*—Southern India and Ceylon, a few stragglers, according to Jerdon, being found in Central India and even in Bengal. On the Malabar Coast it is extremely abundant, frequenting long grass by the sides of rivers and tanks; also grain and cane-fields. The nest is placed among reeds, and is a rather large or nearly round or oval structure made of grass with the entrance on one side. The eggs, according to Jerdon, are 4—6 in number, and in colour pure white. Hume says he had notes of eggs sent to him from the Coimbatore districts, also from the Bhundara districts, and describes them as somewhat elongated ovals, from 0·6 to 0·72 inch in length, and from 0·44 to 0·5 in breadth.

**879. *Amadina atricapilla* (Vieill.),** *Oates, B. Br. Burm.* i. p. 366. *Loxia atricapilla, Vieill., Ois. Chant.* p. 53. *Coccothraustes sinensis, Briss., Orn.* iii. p. 235. *Munia rubronigra, Hodgs., As. Res.* xix. p. 156; *Jerd., B. Ind.* ii. p. 353, No. 698; *Legge, B. Ceylon,* p. 625; *Blyth, B. Burm.* p. 92; *Oates, Str. F.* v. p. 160; *Hume and Dav., Str. F.* vi. p. 401 (footnote). *Munia atricapilla, Hume, Nests and Eggs Ind. B.* ii. p. 444; *Salv., Ucc. Born.* p. 265; *Wald., Trans. Zool. Soc.* ix. p. 208. *Munia sinensis, Daud. et Oust., Ois. Chine* p. 342. *Amadina rubronigra, Hume, Str. F.* viii. p. 107; *Scully, Str. F.* viii. p. 32.—The CHESTNUT-BELLIED MUNIA.

Head, neck and breast black; remainder of the plumage chestnut, turning to glistening fulvous on the rump, upper tail coverts and the outer edges of the tail feathers; centre of abdomen, vent and under tail coverts black. Bill and feet plumbeous; iris dark brown.

*Length.*—4·5 inches; wing 2·1; tarsus 0·55; bill from gape 0·45.

The young are pale fulvous throughout; lighter below than above.

*Hab.*—Northern India; found throughout Lower Bengal and along the foot of the Himalayas as far as Dehra Dhoon; also in the N.-W. Provinces. It has been procured in Ceylon as well as in Southern India; rare in the latter country, but is much more common in Assam and Burmah, throughout the Malay Peninsula, the Islands of Sumatra and Borneo, South-West China, and the Indo-Burmese countries. In Burmah it occurs in all parts of the province. It everywhere affects grassy land in flocks of from 6 to 12; breeds from June to August in Burmah, placing the nest in a clump of elephant grass. Eggs generally five, pure white. Oates says that the nest of this bird is very often tenanted by a snake, and great care should be taken not to insert the hand without previous examination.

**880. *Amadina punctulata* (Linn.),** *Oates, B. Br. Burm.* i. p. 368. *Loxia punctulata, Linn., Syst. Nat.* i. p. 302. *Loxia undulata, Lath., Ind. Orn.* i. p. 387. *Munia undulata, Jerd., B. Ind.* ii. p. 354, No. 699. *Munia punctulata, Hume, Nests and Eggs Ind. B.* p. 444; *Legge, B. Ceylon,* p. 656. *Munia subundulata, Godw.-Aust., P. Z. S.* 1874, p. 48; *Hume, Str. F.* iii. p. 398; *Oates, Str. F.* v. p. 162. *Munia superstriata, Hume, Str. F.* i. p. 481 (footnote); *Hume and Dav., Str. F.* vi. p. 402. *Munia punctularia,*

*Blyth and Wald., B. Burm.* p. 93. *Lonchura punctulata*, *Hume, Str. F.* iii. p. 156. *Munia Inglisi*, *Hume, Str. F.* v. p. 39. *Amadina punctulata*, *A. subundulata*, *A. superstriata*, and *A. Inglisi*, *Hume, Str. F.* viii. p. 107. *Amadina superstriata*, *Oates and Hume, Str. F.* x. p. 232.—THE BARRED MUNIA.

Back as far as the rump chocolate brown, the shafts slightly paler and the feathers of the rump barred with whitish; upper tail coverts glistening yellow fulvous; chin, throat, ear coverts and sides of the neck chestnut; head and neck behind ruddy brown; tail brown, the edges of the feathers glistening yellow or fulvous; primaries and secondaries brown, the edges and tertiaries the same chocolate brown as the upper surface; under wing coverts buff; under surface of the body white with zigzag markings of brownish fulvous; lower abdomen, vent and under tail coverts unmarked whitish. Bill and legs plumbeous; iris deep reddish brown.

*Length.*—4·7 inches; wing 2·1; tail 1·7; tarsus 0·6; bill from gape 0·45.

*Hab.*—Throughout India and Ceylon. Common in the North, spreading into Assam and Burmah. It is found throughout the Indo-Burmese countries, and is recorded from Arrakan, Pegu, Tavoy and Tenasserim. Occurs in the Himalayas and the south of India on the edges of the Neilgherries; also in various parts of the Carnatic, Central India and Bengal. In the Punjab, Sind, N.-W. Provinces, and Rajpootana it is rarely seen. It frequents gardens, groves and orchards, and is quite a familiar bird. It builds in thorny bushes, chiefly about fields. Acacias are generally selected. The nest is not unlike that of other species of *Munia*, and the eggs glossless white.

**881. *Amadina pectoralis*, *Ferdon, B. Ind.* ii. p. 355; *Hume, Str. F.* iii. p. 263; *id.*, iv. p. 403.**—THE RUFOUS-BELLIED MUNIA.

Head, neck and back brown, the shafts of the feathers pale; upper tail coverts dark brown, the feathers tipped with glistening yellow; wings and tail dark brown; face, forehead, throat and breast dark brown, strongly contrasting with the sides of the neck; lower parts from the breast reddish fawn colour; under tail coverts dark brown with pale shafts. Bill plumbeous; legs plumbeous brown; irides dark brown.

*Length.*—4·5 inches; wing 2·2; tail 1·7; tarsus 0·56.

*Hab.*—The Wynaad and Coorg. Hume in his "Nests and Eggs" quotes Miss Cockburn to the effect that it is a summer visitant to the slopes of the Neilgherries about Kotagherry. The birds build in July, and like all the species construct a large nest, laying from 6 to 8 pure white eggs, 0·61 to 0·63 inch in length and 0·42 to 0·46 in breadth.

**882. *Amadina leucogastra*, *Blyth, J. A. S. B.* xv. p. 286 (foot-note); *Hume, Str. F.* viii. p. 107. *Munia leucogastra*, *Salvad. Ucc. Born.* p. 267; *Dav., Str. F.* v. p. 460; *Hume and Dav., Str. F.* vi. p. 402; *Oates, B. Br. Burmah* i: p. 367.**—THE WHITE-BELLIED MUNIA.

Upper plumage chocolate brown, all the feathers except those of the head white shafted; cheeks, ear coverts, throat, breast, under tail coverts and sides of the body deep brownish black, paler on the latter parts; abdomen white; upper tail coverts black; middle pair of tail feathers shiny fulvous, the rest dark brown with fulvous edges; under wing coverts white; legs and feet dusky plumbeous; lower mandible dull smalt or pale blue, upper mandible black; irides dark brown.

*Length*.—4·5 inches; wing 1·9; tail 1·8; tarsus 0·55; bill from gape 0·45. (*Oates*.)

*Hab*.—Tenasserim in the south, where Davison found it nesting.

**883. *Amadina acuticauda*** (*Hodgs.*), *Hume, Str. F.* viii. p. 107. *Munia acuticauda*, *As. Res.* xix. p. 153; *Jerd.*, *B. Ind.* ii. p. 356, No. 702; *Hume, Nests and Eggs*, p. 450; *Blyth and Wald.*, *B. Burm.* p. 93; *David et Oust.*, *Ois. Chine*, p. 343.—HODGSON'S MUNIA.

Upper surface of the body deep brown, the shafts of all the feathers, except those of the forehead, whitish; chin, throat and cheeks black; ear coverts fulvous with lighter centres; wings very dark brown; tail black; rump white; breast and sides of the neck dark brown, the feathers pale shafted and with fulvous edgings; abdomen and sides white with indistinct arrow head marks of brown; flanks and under tail coverts fulvous, mottled with fulvous white and the shafts pale; under wing coverts buff. Bill with the upper mandible blackish, the lower one plumbeous; iris dark brown; legs plumbeous.

*Length*.—4·5 inches; wing 2; tail 1·8; tarsus 0·55; bill 0·4.

*Hab*.—The Himalayas, extending into Assam, parts of Burmah and Malaya. Jerdon says that in the Sikkim Himalayas it ascends to at least 5,000 feet, and is tolerably abundant near cultivated land. Its nest is not unlike that of its congeners, and the eggs too, both in colour and number.

**884. *Amadina striata***, *Linn.*, *Syst. Nat.* i. p. 306; *Hume, Str. F.* viii. p. 107; *Oates, B. Br. Burm.* i. p. 365. *Fringilla leuconota*, *Temm.*, *Pl. Col.* 500, fig. 2. *Munia striata*, *Jerd.*, *B. Ind.* ii. p. 356; *Hume, Nests and Eggs Ind. B.* p. 448; *Wald.*, *Ibis*, 1874, p. 144; *Legge, B. Ceylon*, p. 600. *Munia leuconota*, *Blyth, B. Burm.* p. 93.—THE WHITE-BACKED MUNIA.

Upper surface of the body rich dark brown, darkest on the forehead; all the feathers, except those on the forehead, conspicuously white-shafted; ear coverts and sides of the neck the same as the back; cheeks, chin, throat, and upper breast, dark blackish brown; wings and tail dark, nearly blackish brown; middle tail feathers exceed the outermost by 0·5 inch; lower breast, abdomen, and vent white; flanks brown with white shafts. Under tail coverts darker brown with less conspicuous shaft lines; upper mandible blackish, the lower one bluish; iris reddish brown; legs greenish horny.

*Length*.—4·5 inches; wing 2; tail 1·6; tarsus 0·5; bill 0·4.

*Hab.*—Peninsular India. Abundant on the Malabar Coast, sparingly in other parts of India, in the Northern Circars, Lower Bengal, Arrakan, and Ceylon. In the Andamans and Nicobars it is replaced by *A. fumigata*, *Wald.*, and *A. semistriata*, *Hume*. Its habits do not differ from those of the preceding species. Breeds throughout the peninsula of India, the eastern portions of the Central Provinces, Orissa, Lower and Eastern Bengal, and Arrakan. The breeding season, according to Hume, varies according to locality. In the Neilgherries, he says, they appear to lay in July and August. In Yercaud a nest was taken in the last week of September. The eggs are regular, somewhat elongated ovals, pure white, and perfectly devoid of gloss. They vary in length from 0.55 to 0.65 inch, and in breadth from 0.42 to 0.47.

**885. *Amadina malabarica* (Linn.).** *Fard. and Selby, Ill. Orn.* 2nd Ser. pl. 34; *Reich., Sing.* t. 150; *Ferd., B. Ind.* ii. p. 357, No. 703; *Murray, Hdbk., Zool., &c., Sind*, p. 177; *Murray, Vert. Zool. Sind*, p. 182.—The PLAIN BROWN MUNIA.

Head, back and scapulars pale earthy brown, the feathers of the head centred darker, giving it a rufescent brown appearance; rump pale earthy brown; upper tail coverts white, barred with dusky; primaries, secondaries and tertiaries dusky brown; the secondaries and tertiaries rufescent brown on their outer webs and tipped very slightly with whitish; wing coverts like the back, the first three or four from the edge of the wing whitish; chin, throat, breast, belly, and under tail coverts greyish white, the flanks and sides of the breast in some specimens with transverse bars of rufescent; under tail coverts white; tail dark brown, edged with dark reddish brown, the central feathers broadly so, and prolonged 0.75 beyond the others. Bill plumbeous; legs pale brown; irides deep brown.

*Length.*—5 inches; tail 2; wing 2.1; bill at front 0.4.

*Hab.*—Sind, Punjab, N.-W. Provinces, Southern and Central India, Malabar, Deccan, Concan, Kutch, Kattiawar, Jodhpore, Jeypore, N. Guzerat, and in fact nearly throughout India, but not extending to the countries towards the east. Breeds everywhere it is found, but chiefly in the more arid tracts and nearly throughout the year if the record of its nidification in different parts of the country has been properly ascertained. They build in thorny bushes, generally making a large globular nest made of fine grass and loosely put together. The eggs are pure glossless white.

*Padda* (*Amadina*) *Oryzivora*, the well-known Java sparrow, is naturalized now in various parts of India. It is not however, in the proper sense, a native of India, but the following characters will suffice for its identification. Cheeks and ear coverts white; chin, throat, a line bordering the ear coverts, the forehead, and whole top of head black; above, also the neck, breast, and upper abdomen bluish grey; abdomen, sides, thighs and vent vinous; under tail coverts white; rump, upper tail coverts and tail black.



Gen. **Erythrura**.—*Swains.*

General characters as in *Amadina* ; plumage green and crimson.

**886. *Erythrura prasina*, *Sparrm.*, *Salvad.*, *Ucc. Born.* p. 268 ; *Hume and Dav.*, *Str. F.* vi. p. 405 ; *Hume*, *Str. F.* viii. p. 107 ; *Oates*, *B. Br. Burm.* i. p. 370. *Fringilla prasina*, *Sparrm.*, *Mus. Carls.* t. 72, 73.—The GREEN MUNIA.**

Forehead, cheeks, feathers round the eye, the ear coverts, chin and throat blue ; top of head, sides of neck, back, wing coverts and tertiaries green ; rump, upper tail coverts and middle pair of tail feathers crimson ; other feathers of the tail brown ; abdomen crimson ; sides of body, vent and under tail coverts buff ; primaries and secondaries brown, edged with green.

The female has the whole upper plumage green, except the tail coverts and central tail feathers, which are red but duller than in the male ; lower plumage fulvous, tinged with green on the breast, throat and flanks. (*Oates*.)

Young birds have the crimson of the upper parts replaced by yellow, and the abdomen is gamboge yellow. Legs, feet and claws fleshy pink ; bill black ; irides dark brown.

*Length*.—6 inches ; wing 2·3 ; tail 2·75 ; tarsus 0·3 ; bill from gape 0·58.

*Hab.*—Burmah, in the extreme south of Tenasserim, where it is a visitor during the rice harvest. It extends to Sumatra, Java and Borneo. Davison says he found it associated with flocks of *Amadina acuticauda*.

Gen. **Estrilda**.—*Swains.*

Bill not so broad, nor as high as in *Munia*, and more compressed.

**887. *Estrilda punicea* (*Horsf.*), *Oates*, *B. Br. Burm.* i. p. 371. *Fringilla punicea*, *Horsf.*, *Trans. Linn. Socy.* xiii. p. 160. *Estrilda flavidiventris*, *Wallace*, *P. Z. S.* 1863, p. 495 ; *Wardlaw-Ramsay*, *Ibis*, 1877, p. 461 ; *Hume*, *Str. F.* viii. p. 107 ; *Oates*, *Str. F.* x. p. 232. *Estrilda amandava* (*Lin.*), *Blyth*, *B. Burm.* p. 93 ; *Oates*, *Str. F.* iii. p. 342.—HORSFIELD'S WAX-BILL.**

Sides of the face, chin, throat, breast and sides of neck crimson, the two latter speckled with white ; sides of the body pale red, much spotted with white ; belly and vent yellowish red ; under tail coverts variable. In some the centres of the feathers are whitish tinged with pink, the edges blackish brown and the tips maroon ; in others the feathers are uniform blackish brown ; forehead and top of head greenish, each feather broadly tipped with crimson ; upper surface of the body pale greenish, washed with red ; rump with short transverse lines or elongated spots of white ; upper tail coverts crimson, spotted with white ; tail black, the outer four pairs of feathers tipped with white ; upper series of small wing coverts plain brown ; the second and third series brown, each feather with a terminal spot of white ; quills plain brown, the tertiaries with a terminal spot of white. (*Oates*.)

The female has the sides of face and neck, also the upper surface of the body from the bill to the rump, hair brown; upper tail coverts dull crimson; tail blackish brown, the two outer pairs of feathers with the terminal half of the outer web broadly edged with white, the next two pairs merely tipped with white; chin, throat, breast and flanks greyish yellow; abdomen and vent saffron yellow; wings brown, each of the feathers of the tertiaries and greater coverts with a white spot at the tip; under tail coverts same as the abdomen but paler.

Bill deep red, the posterior half of culmen black; iris crimson; legs flesh colour.

*Length*.—4 inches; wing 1·8; tail 1·5; tarsus 0·58; bill from gape, 0·36. (*Oates*.)

*Hab*.—Horsfield's Waxbill, Oates says, is very abundant in Southern Pegu. It occurs in Rangoon, but is rare there. It has been procured near Bhamo and is said to also occur in Siam and Cochin-China, and also in the islands of Java, Timor, and Flores. Oates says "it is found only in grass land and paddy fields." They associate in tolerably large flocks and feed on the ground on minute seeds. Their flight is very rapid and is effected by constant beatings of the wings, so rapidly carried out that the wings cannot be clearly seen, and these tiny birds seem when flying like so many huge bees. The nesting season commences about the middle of October and lasts till the beginning of December. The nest is a spherical mass of grass lined with feathers and placed near the ground in a soft tuft of grass. The eggs are 4—6 in number and white in colour.

**888. Estrilda amandava**, *Linn.*, *P. E.* 115·3; *Reich.*, *Sing.* t. 4, 25, 33; *Ferd.*, *Birds Ind.* ii. p. 359, No. 704; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 177; *Gray*, *Handlist B.* i. p. 60.—THE RED WAX-BILL.

*Summer Plumage*.—Feathers of the forehead and crown brown, tipped with crimson; a spot in front of the eye black; a bright crimson supercilium, and a row of white feathers under the eye; sides of the face, chin, throat, breast, flanks and upper tail coverts crimson, the feathers basally dark brown, and those of the breast and upper tail coverts and flanks with a terminal white spot; back, rump, wing coverts, primaries, secondaries and tertiaries olive brown, the tips of the coverts, tertiaries and some of the scapulars with a white spot; tail black, the outer feathers tipped with white; lower tail coverts black; lower abdomen sooty or blackish brown. The female is like the male, with the lower back and rump tinged crimson and a few white spots; the abdomen and vent whitish, as also the lower tail coverts; bill reddish, the upper mandible blackish on the edge; irides crimson; feet fleshy.

*Length*.—4 to 4·5 inches; wing 1·9; tail 1·4.

*Hab*—Throughout India to Assam ; common in Sind, affecting the woody districts, especially in the vicinity of the Indus. It is also common in Kutch, Kattiawar, Rajputana generally, N. Guzerat, Deccan, Concan, Southern and Central India, Oudh and Lower Bengal, extending to the Himalayas. Breeds from May to September, making a rather loose purse-shaped structure of grass, and lined with the fine glossy filaments of *Calotropis procera*. Eggs, like those of the *Munia*, white, but smaller, and more elongate.

**889. Estrilda formosa** (*Lath.*), *Ferd.*, *B. Ind.* ii. p. 361, No. 705 ; *Hume, Str. F.* iii. p. 496 ; viii. p. 492.—THE GREEN WAX-BILL.

Above light olive green ; quills and tail dusky, the former edged with green ; beneath very pale yellow, somewhat darker on the lower belly and under tail coverts, and with broad transverse dashes of dusky on the flanks and sides of the abdomen. Bill waxy red ; feet plumbeous brown ; irides pale brown. (*Ferd.*)

*Length.*—3·8 to 4 inches ; wing 1·75 ; tail 1·3.

*Hab.*—Northern and Central India, also the Central Provinces. Jerdon records it from Mhow, Saugor, the jungles of Nagpore and the Vindhian range of hills.

### Family, ALAUDIDÆ.

Bill typically longer and more slender than in most *Fringillida* ; short and thick in many ; wings broad ; tertiaries elongated, pointed ; hind toe and claw long, the latter curved ; plumage brown, more or less striated. (*Ferd.*)

### Gen. *Mirafra*.—*Horsf.*

Bill thick, much compressed, the culmen curved and convex, the tip of the upper mandible wide above and inflexed ; wings short, rounded ; primaries scarcely longer than the secondaries and tertials ; 1st quills short, half the length of the second, which is shorter than the third ; tail short, even.

**890. Mirafra Assamica**, *McClell.*, *P. Z. S.* 1839, p. 162 ; *Ferd.*, *B. Ind.* ii. p. 416. No. 754 ; *Hume, Nests and Eggs Ind. B.* ii. p. 473 ; *Ball, Str. F.* ii. p. 421 ; *Blyth, B. Burm.* p. 95 ; *Anderson, Yunnan Exped.* p. 606 ; *Cripps, Str. F.* vii. p. 294 ; *Hume, Str. F.* viii. p. 108 ; *Oates, B. British Burmah* i. p. 375.—THE BENGAL BUSH LARK.

Entire upper surface of the body ashy brown, tinged with olive, each feather with mesial dusky brown streaks, less conspicuous on the rump and upper tail coverts ; wing coverts brown, edged with pale rufous white ; quills brown, the outer webs of the primaries deep ferruginous, the second primary equal to the sixth, the edges of the secondaries slightly paler ferruginous, and the tertiaries edged on both webs with pale rufous white ; inner webs of quills ferruginous ; lores, ear coverts and cheeks mixed with brown and pale fulvous ; a pale fulvous superciliary streak ; tail brown, edged with fulvous ; chin and

throat white ; under surface of the body fulvescent ; breast streaked with dark brown centres. Bill dusky, fleshy white beneath ; legs pale fleshy brown ; irides hazel.

*Length.*—5·5 to 5·75 inches ; wing 3·3 to 3·5 ; tail 1·8 to 2·1 ; tarsus 0·95 ; bill from gape, 0·75 ; hind claw 0·5 to 0·6.

*Hab.*—Throughout Lower and Eastern Bengal, the wooded tracts of the Central Provinces and Chota Nagpore ; also Assam, Cachar, Dacca Sylhet and in the Dhoons, Terails and Bhaburs that lie at the feet of the Himalayas and the immediate adjacent districts of Behar, Oudh, and the N.-W. Provinces, where it is a permanent resident. (*Hume.*) According to Blyth it is said to occur in Arrakan, and Oates says it occurs in the Indo-Burmese countries. Jerdon states that it is a tolerably familiar bird feeding in gardens and bushy places, squatting when watched and then taking a short flight. According to Blyth it is a heavy, inactive bird in captivity, prone to hide itself from observation. Its song is pleasing, but of no power. Breeds from May to July, building in a hollow in the ground under some tuft of grass. Eggs 3—5, dull greenish white, thickly freckled, spotted and streaked with yellowish or pale purplish brown, more dense towards the large end. In length they vary from 0·79 to 0·9 inch, and in breadth from 0·57 to 0·65.

**891. *Mirafra affinis*, Jerd., *Madr. Journ.* xiii. pt. ii. p. 136 ; *id.*, *B. Ind.* ii. p. 417, No. 755 ; *Hume, Nests and Eggs Ind. B.* p. 474 ; *Ball, Str. F.* ii. p. 422 ; *Blyth and Wald., B. Burm.* p. 95 ; *Hume, Str. F.* viii. p. 108 ; *Legge, B. Ceylon*, p. 634. *Mirafra microptera*, *Hume, Str. F.* i. p. 483 ; *id.*, *Nests and Eggs Ind. B.* p. 475 ; *id.*, *Str. F.* iii. p. 159 ; *Oates, Str. F.* v. p. 163 ; *Hume, Str. F.* viii. p. 108 ; *Oates, B. Br. Burm.* i. p. 376. —The MADRAS BUSH LARK.**

Entire upper surface of the body dusky brown, each feather edged with pale rufous ; wing coverts brown, edged with rufous ; quills dusky brown, edged with bright rufous on the outer webs of the primaries and secondaries, and pale rufescent on both webs of the tertiaries ; inner webs of the primaries pale rufous at the base ; tail brown edged with pale rufous more conspicuous on the outermost feathers ; lores and cheeks mixed rufous and brown ; chin and throat white ; superciliary streak pale fulvous ; under surface of the body white, faintly tinged with fulvous, the breast streaked with dark brown. Bill dusky, fleshy beneath ; legs fleshy ; irides hazel.

*Length.*—5·5 to 6 inches ; wing 2·9 to 3·25 ; tail 1·75 to 2 ; tarsus 1 ; culmen, 0·5 ; hind claw 0·45.

*Hab.*—Southern India generally. It is recorded from the Malabar Coast, Carnatic, Mysore and the Southern portion of the table land, extending, according to Jerdon, to Goomsoor and Midnapore in Bengal. It is found in Ceylon, also in Burmah and Cochin-China. In Burmah, Oates says it is very abundant at Thayetmyo and its immediate neighbourhood. It is found in gardens

and compounds as well as on road sides and patches of jungle. He found a nest in July, which is said to have been made of grass partially domed, like the last species, and placed in a hoof mark under a tuft of grass and overhung by a small bush. The eggs, two in number, were white, thickly spotted with rusty brown. Hume says it lays 3—4 eggs,  $0.81 \times 0.56$  in size.

**892. *Mirafra erythroptera*, *Ferd.*, *Ill. Ind. Orn.* pl. 38; *id.*, *Birds Ind.* ii p. 418, No. 756; *Murray, Hdbk.*, *Zool. &c.*, *Sind*, p. 185.—The RED-WINGED BUSH LARK.**

Head, back, scapulars, rump and upper tail-coverts fulvous brown; feathers of the head (coronal) lengthened, tinged rufescent and, like those of the upper parts, mesially streaked with dark brown; eye streak and supercilium fulvous white; ear coverts fulvous brown, very slightly tinged with rufescent; wing coverts dusky brown, edged with fulvous or rufescent brown; primaries rufous on their outer webs, and dark shafted; the inner web of the second primary rufous for about one-half its length at the base, the other half dusky, the dusky tips growing less in extent on the others, and in some specimens reduced to a minute shaft-streak on the secondaries; tertials dusky brown, broadly edged with rufous; tail dark brown, the centre feathers pale sandy brown, with slightly rufous edgings, and the outer web of the outermost feather white; chin and throat white; sides of the throat fulvous white, the feathers edged brown, forming two bands from the base of the lower mandible to the sides of the neck; breast and under parts white or fulvous white, spotted with dark brown; bill horny; legs pale brown; irides light brown.

*Length*.—5.25 to 5.5 inches; wing 3.2; tail 2; bill at front 0.4.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Central India, Kutch, Kattiawar, Rajputana, Guzerat, Concan and the Deccan; affecting low jungle, bare plains, or the vicinity of cultivation. Breeds from March to August in similar situations as the last. Mr. Hume says he has found them in a hoof-print, in a perfectly bare plain, in an equally bare field, under clods of earth, in open country, or foot of some dense tuft of grass; in scattered jungle at the foot of nim, caper or young babool trees; also between the rails of a railway among ballast. The eggs, 3—5 in number, are perfect ovals, greenish, or pinkish white with fine speckles and spots all over of red, brownish red, and inky purple. Size,  $0.72-0.82 \times 0.55-0.65$ .

**893. *Mirafra cantillans*, *Ferd.*, *J. A. S. B.* xiii. p. 960; *id.*, *Suppl. Cat.* 185; *id.*, *B. Ind.* ii. p. 420. No. 757; *Hume, Nests and Eggs Ind. B.* p. 476.—The SINGING BUSH LARK.**

Entire upper surface of the body dusky brown, the feathers margined with rufescent brown; those of the head elongated; wing coverts margined with paler rufous brown. Quills brown, margined with rufous brown; tail brown, the outermost pair on each side nearly all white, the penultimate, white on the

outer webs only; lores, sides of the face, and ear coverts mixed dusky and rufescent, whitish below the ear coverts; superciliary streak pale rufous; chin and throat white; breast rufescent with a few dark brown spots; rest of under surface of body pale rufescent. Bill dusky, fleshy beneath; legs fleshy brown; irides dark brown.

*Length*.—5·5 to 5·8 inches; wing 2·7 to 2·9; tail 2; culmen 0·48.

*Hab*.—Southern India generally, also N.-W. India, the Central Provinces, Bengal, and the Punjab. It is recorded from the Carnatic, the Northern Circars and Mysore, also Gorgaon, Lahore, Hansic, Cawnpore and Jhansi. Jerdon says it is generally spread throughout India, frequenting meadows and grass land near cultivation, and rising high in the air singing the while its sweet and pleasant song. Breeds from March to August, making a nest, not unlike those of the foregoing species. Eggs 3—4, of the same type of marking as the other *Mirafras*, varying in length from 0·72 to 0·9, and in breadth from 0·58 to 0·65.

Gen. **Ammomanes**.—*Cab*.

Bill as in the last, but longer and more compressed; 1st quill minute; 2nd shorter than the third, which, and the fourth, are equal and longest; tertiaries shorter than the secondaries; tail long; hind claw long and curved. Nostrils covered with a tuft of incumbent feathers; plumage uniform, with scarcely any dark striations.

**894. *Ammomanes lusitania*.** *Gm., Syst. Nat.* ii. p. 798; *Hume, Str. F.* i. p. 211; *Murray, Hdbk., Zool., &c., Sind*, p. 185; *Gray, Handlist Birds*, No. 7808; *Murray, Vert. Zool. Sind*, p. 192. *Ammomanes lusitanica*, (*Gm.*), *Ferd., B. Ind.* ii. p. 422, No. 759; *Tem., P. C.* 244, 2. *Ammomanes deserti* (*Licht.*), *Blf., East. Pers.* p. 245. *Ammomanes isabellina*, *Tem., Col. Pl.* 244, f. 2; *Gould, Birds Eur.* pl. 163.—THE PALE RUFOUS FINCH-LARK.

Top of head, nape, back, scapulars, rump and upper tail coverts earthy greyish brown, slightly tinged with rufescent on the rump; feathers round the eye, as well as a line from the nostrils to the eye, and at the gape, fulvous white; a faint streak in front of the eye in the middle of the white line; cheeks and ear coverts like the back; chin, throat and breast fulvous or greyish white, with a few dusky streaks on the breast; rest of lower surface rufescent brown; wing coverts like the back, with paler edges and dark shaft streaks; primaries and secondaries dusky, margined on the outer and inner webs with pale rufous, the tips fulvous white; tail brown; the outer web of the outermost, and its basal half, pale rufous, the others narrowly margined and tipped paler; bill dusky; base of lower mandible yellowish; legs pale brown.

*Length*.—6 to 6·25 inches; wing 4; tail 2·75; bill at front 0·56.

*Hab*.—Sind, Punjab, N.-W. Provinces, Beloochistan, Arabia, Southern Persia, Afghanistan, Cashmere, Southern and Eastern Europe and N.-E. Africa. Extremely common in Sind on the bare stony hills and plains. Breeds,

according to Hume, throughout the rocky barren hills of Sind and also the Western and N.-W. Punjab, laying during April, May, and June. The nest is placed under a shelf of rock or flat stones upon the ground, and is constructed of grass stalks lined with fine roots. The bird is said to pile up little flat pieces of stone all round the nest. The eggs are oval, rather compressed towards the small end. The ground colour is white, thickly sprinkled with specks and spots of pale yellowish brown. They are 3—4 in number, and vary in size from 0·78—0·87 × 0·59—0·62.

**895. *Ammomanes phœnicura* (Frankl.), *Ferd.*, *B. Ind.* ii. p. 421, No. 758; *Blyth, Cat. B. Mus. As. Soc. Beng.*, 188; *Hume, Str. F.* iii. p. 499. *Mirafra phœnicura*, *Franklin, P. Z. S.* 1831, p. 731.—THE RUFOUS-TAILED FINCH-LARK.**

Entire upper surface ashy brown, tinged with rufescent; rump, upper tail coverts and tail ferruginous; quills dark brown; tail ashy brown tipped with dark brown; primaries and secondaries narrowly edged with pale rufous; sides of the head mixed ashy brown and pale rufous; throat pale ferruginous, deeper on the breast, which has a few dusky streaks; under surface ferruginous; under tail coverts paler and with a dusky spot on the feathers; inner webs of quills dull ferruginous. Bill horny brown above, fleshy at the base beneath; legs fleshy; irides brown.

*Length*.—6·5 to 6·8 inches; wing 4·2 to 4·3; tail 2·25 to 2·3; culmen 0·9; hind claw 0·6.

*Hab.*—Northern and Central India. Recorded from the Nerbudda (west). Mhow, Saugor, and Jaulnah. Hume says it is common enough in the Sumbulpoor, Jubbulpoor, and Jhansi districts, also in Gwalior, and that it is by no means rare in Etawah, Agra, Aligurh, &c., and in the eastern portions of Rajpootana, for instance, the Sambhur Lake. In the Punjab and Sind it is replaced by *lusitania*. Occurs also in parts of Southern India. The breeding season lasts from February to April. The nest is very similar to that of the preceding species, and is made in similar situations. Four is said to be the full complement of eggs, and the colour and markings are almost similar to those of *A. lusitania*. The eggs, however, are 0·77—0·95 × 0·56—0·65.

#### Gen. **Pyrrhulauda**.—*Smith*.

Bill short, very stout, sides compressed; culmen arched; commissure straight; wings long; tertiaries lengthened; 1st primary small; tail moderate; toes small.

**896. *Pyrrhulauda grisea*, *Scop., Son. Voy.* t. 113, 2; *Ferd.*, *B. Ind.* ii. p. 424, No. 760; *Hume, Str. F.* i. p. 212; *id.*, vol. vii. p. 66; *Gray, Handlist B.* No. 7834; *Murray, Hdbk., Zool., &c., Sind*, p. 186. *Pyrrhulauda crucigera*, *Tem., Pl. Col.* 269, 1.—THE BLACK-BELLIED FINCH-LARK.**

*Male*.—Forehead and cheeks white, or fulvous white; crown of the head black, scapulars, rump and upper tail coverts grey brown, with a slight tinge of rufescent on the back, the feathers centred dusky; cheeks whitish; primaries, secondaries and wing coverts brown, the feathers edged paler; chin, throat, breast, sides of the neck and entire lower surface black; the flanks, sides of breast and abdomen greyish white. Bill pale brown; legs fleshy; irides dark brown.

*Length*.—4·75 to 5 inches; wing 3; tail 2; bill at front 0·37. The *Female* is readily distinguishable by the absence of the black under surface and a more rufescent tinge on the upper.

*Hab*.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Kutch, Kattiawar, Rajputana (Jeypore and Jodhpore), N. Guzerat, Concan, Deccan, Central and South India. Affects open plains and ploughed lands. Breeds all over the plains of India from January to August—the first brood being hatched in February and March and the second in July and August. Eggs have also been taken in April and May. The nest is always on the ground, and placed in some small depression on open fallow plains. The eggs are moderately elongated ovals, having a greenish or greyish white ground, densely mottled, speckled and spotted, or finely streaked with various shades of yellowish and earthy brown. Hume adds that with the exception of the eggs of *Alauda raytal*, these are the smallest of all our Indian Lark's eggs, 0·65—0·8 × 0·5—0·62.

**897. *Pyrrhulauda melanauchen*, Cab., Mus. Hein. t. p. 124; Finsch, Trans. Zool. Socy. vii. p. 275, pl. xxvi.; Gray, Handlist Birds, No. 7837; Blf., East. Pers. ii. p. 246; Murray, Vert. Zool. Sind, p. 193; Hume, Str. F. vii. p. 64. *Pyrrhulauda affinis*, Blyth, Ibis, 1867, p. 185; Hume, Str. F. i. p. 212; *id.*, vii. p. 66; Murray, Hdbk., Zool., &c., Sind, p. 186.—The BLACK-COLLARED LARK.**

“The male has a broad frontal band, cheeks, ear coverts and a band from these round the base of the occiput and a large patch on either side of the breast, white; in the case of the two latter often tinged brownish.”

“The base of the lower mandible, chin, throat, central portion of breast, abdomen, vent, and lower tail coverts, axillaries and wing lining (except lower primary greater coverts, which are pale grey brown like the lower surface of the quills) intensely deep, at times somewhat sooty, at times almost chocolate-brown; the crown and upper part of occiput are deep brown, never quite so intense as the lower parts, often considerably lighter, and more purely brown; the anterior portion of the side of the neck behind the lower half of the ear coverts is always like the breast, sometimes the deep colour of these parts extends behind the whole of the ear coverts, and right round the back of the neck, forming a collar immediately behind the white basal occipital band already noticed, sometimes there is not the faintest trace of



this, and sometimes again the collar is only represented by a larger or smaller nuchal patch. This is perhaps the most common form, and hence the name *melanauchen*.

"The interscapular region is a pale earthy brown, sometimes with a sandy tinge; the wings rather darker, but all the feathers with a pale whitey brown edging; inner webs of quills darker, a sort of pale hair-brown; central tail feathers slightly paler than tertiaries; rest of tail feathers deep brown, but the outer web of the exterior feather white or nearly so, and the inner half or more of the inner web pale whitey brown; rump and upper tail coverts pale earthy or sandy brown, noticeably paler than the interscapular region; flanks much the same colour as the rump.

"The female has the chin, throat, abdomen, vent, and lower tail coverts white, with more or less traces of a very faint fawny tinge; a broad ill-defined pale tawny band, which is sometimes feebly striated darker, covers the breast. The axillaries and lesser lower coverts about the ulna are deep brown, sometimes almost as deep as the breast of the male.

"The female also wants the white frontal band and patch on the sides of the head, the white occipital band, the dark brown, and dark sides of the neck, and of course the dark collar or dark nuchal patch so common in the males; the whole top of the head is unicolorous or nearly so with the interscapular region, though the feathers are generally feebly darker centred. The rest of the upper surface is much as in the male, but as a rule sandier and less earthy in tinge. The males are distinguished at once from those of *grisea* by their dark crowns. Both sexes are distinguished by their somewhat larger size (Wings in *grisea* taken at random measure—*Males*, 3·08; 3·07; 3·0; 3·01; 3·1. *Females*, 2·99; 3·0; 2·9; 2·99; 3·06; 2·9; 2·87; 2·95.) and their somewhat larger bills. Females are further distinguishable by their whiter under surface, paler upper surface, and especially crowns, and by their deep coloured axillaries, which in *grisea* are little darker than the breast. In this latter species the lesser lower coverts about the ulna are dark brown in the female, but not nearly so deep as in *melanauchen*. Dimensions, as under:—

	Length.	Expanse.	Tail.	Wing.	Tarsus.	Bill at Gape.	Culmen.
<i>Male.</i>	5·61	10·1	2·2	3·2	0·6	0·5	0·55
"	5·6	10·0	2·2	3·17	0·7	0·47	0·56
<i>Female</i>	5·4	10·0	2·0	3·11	0·69	0·48	0·52
"	5·6	9·6	2·1	3·02	0·7	0·49	0·52

"Irides brown; the bill from pale whitey brown, bluish on lower mandible to pearly white with a bluish tinge; the legs and feet pale whitey brown, pale hoary fleshy or pale brownish fleshy."—(*Hume, Str. F. vii. p. 46.*)

*Hab.*—Sind, Kutch, Jodhpore, Rajputana generally, and in Jeysulmere; also in Beloochistan and Southern Persia, affecting ploughed lands and cultivation.

Gen. **Calendrella**.—*Kaup*.

Bill short, sub-conic; wings long; 1st primary minute; 2nd, 3rd and 4th equal and longest; tertiaries elongated, nearly as long as the primaries; feet small; toes and claws short; hind claw straight.

**898. *Calendrella brachydactyla* (Leisl.), *Ferd.*, *B. Ind.* ii. 426, No. 761; *Blf.*, *East. Pers.* ii. p. 242; *Murray, Hdbk.*, *Zool.*, &c., *Sind*, p. 187. *Alauda calendrella*, *Bonelli, Naum. vogt.* t. 98, 2; *Gould, B. Eur.* pl. 163.—The SHORT-TOED OR SOCIAL LARK.**

Head, nape, back, scapulars and rump pale rufous brown, the feathers with dark centres; upper tail coverts paler, with fulvous edgings and dark shaft-streaks; supercilium fulvous white; chin and throat whitish; breast and rest of under surface fulvous white, with a brownish tinge on the breast, which in some is spotless, in others with a few faint brown spots; under tail coverts white; wing coverts, primaries, secondaries and tertiaries dusky brown, the outer margin of the first (2nd) long primary pale fulvous, and the secondaries and tertials with pale rufous edgings, broader on the tertials; edge of the wing pale white; tail dusky, with the outermost feather fulvous white, except an oblique dusky streak on the inner margin of the inner web; the next-feather white on the outer web only, all the others, in some specimens tipped whitish, in others not tipped; central tail feathers with broad rufescent edgings; bill horny, dusky on the ridge of upper mandible to the tip; legs brown; irides dark brown.

*Length*.—6 to 6.25 inches; wing 4; tail 2.25; tarsus 0.8.

*Hab.*—Europe, Asia and Africa. Found throughout India to the foot of the Himalayas. Common in Sind, the Punjab, N.-W. Provinces and Bengal; Kutch, Kattiawar, Rajputana generally and North Guzerat; also Khandeish and Central India, less numerous in parts of Southern India. In the Concan and Deccan it is extremely common, as also in Beloochistan, Persia, S. Afghanistan, and E. Turkistan. Breeds in Sind during April and May.

Gen. **Melanocorypha**.—*Boie*.

Bill thick and convex; tertiaries not elongated; hind claw moderate straight.

**899. *Melanocorypha bimaculata*, *Menet.*, *Cat. Rais.* p. 37; *Sharpe, Ann. and Mag. Nat. Hist.* vol. viii. p. 180, Series 4, 1871; *Blf.*, *E. Pers.* ii. p. 244; *Hume, Str. F.* vii. p. 421; *Murray, Hdbk.*, *Zool.*, &c., *Sind*, p. 189. *Melanocorypha calandra*, *Rupp, Syst. Uebers.* p. 78. *M. torquata*, *Blyth, J. A. S. B.* xvi. p. 476. *M. rufescens*, *Brehm.*, *Naum.* 1856, p. 376.—The PIED LARK.**

“*Adult Male in Summer Plumage.*—Above fulvous brown, the centres of the plumes much darker brown, giving a somewhat mottled appearance, all the

feathers being edged with fulvous, especially on the hinder part of the neck and centre of the back; wing coverts coloured like the back, but a little more rufous, plainly edged with fulvous, less distinct on the greater coverts; quills brown with a slight shade of ashy grey on the outer webs; all the feathers more or less narrowly edged with fulvous, but none of the feathers tipped with white; tail dark brown, with conspicuous white tips to all the feathers except the two central ones; all the rectrices edged more or less broadly with fulvous; lores and a distinct eyebrow whitish; cheeks fulvous white with a slight mottling of rufous; ear coverts entirely rufous; throat white; rest of the under surface dull white, the upper part of the breast and flanks rufous; a black pectoral gorget extending right across the lower part of the breast; on the upper part of the breast are a few indistinct mottled lines below the black gorget; under tail coverts whitish; under wing coverts entirely greyish brown. Bill horn-brown, the under mandible yellowish; feet fleshy yellow; iris dark brown.

*Obs.*—Some specimens are much greyer than others; others again are more rufous; some are more white on the belly and have the breast much obscured, so that the pectoral gorget is scarcely discernible. This last dress seems to be the winter plumage.

*Young.*—Similar to the adult, but more rufous in the centre of the back; gorget more obscure, and the stripes on the upper breast more indistinct; the bill likewise seems to be more yellow.”—*Sharpe and Dresser, Birds of Europe.* (The males are larger than the females.)

*Length.*—7·06 to 8 inches; expanse 13·13 to 15·25; wing 4·2 to 4·8; 2nd primary is the longest, the 1st is subequal to 0·2 shorter, the 3rd is from 0·13 to 0·3 shorter, and the 4th 0·5 to 0·7 shorter; tail from vent from 2·12 to 2·4; tarsus 1 to 1·1. Bill from forehead to point 0·6 to 0·7; from gape 0·7 to 0·9; height at front 0·2 to 0·25, the closed wing falls short of end of tail by from 0·38 to 0·87.

*Legs and feet fleshy or yellowish fleshy, more or less dusky at joints; claws dusky; irides brown, in some light brown. Bill horny brown or blackish horny on upper mandible; lower mandible greenish horny, changing to yellow at base and gape.*—*Hume, Lahore to Yarkand.*

*Hab.*—Upper Sind, and the Desert East of Omercote (*Blf.*), in the Thurr and Parkur Districts, Beloochistan, Persia, Afghanistan, and Eastern Turkestan.

**900. *Alaudula raytal* Blyth, *J. A. S. B.* xiii. p. 962; *Jerd.*, *B. Ind.* ii. p. 428, No. 762; *Hume, Nests and Eggs Ind. B.* p. 481; *Blyth, B. Burm.* p. 95; *Hume, Str. F.* iii. p. 159; *Anders., Yunnan Exped.* p. 606; *Cripps, Str. F.* vii. p. 295; *Hume, Str. F.* viii. p. 109; *Oates, Str. F.* x. p. 234; *id.*, *B. Br. Burm.* i. p. 374.—THE INDIAN OR GANGES SAND LARK.**

Upper surface of the body greyish brown with narrow dark brown mesial streaks to the feathers; lores, supercilium and feathers under the eye white; ear coverts streaked with grey and brown; wings brown, the coverts and tertiaries margined with pale fulvescent or whitish; tail brown, edged with greyish white; the outermost tail feathers all white, except the edge of the inner webs, the penultimate white on the outer webs on the marginal half, brown on the inner webs; under surface of the body white with a few small dark streaks on the breast. Bill horn colour; legs fleshy yellow; irides brown; claws pale horn.

*Length*.—5·4 to 5·5 inches; wing 3; tail 1·8; culmen 0·6; tarsus 0·75.

*Hab*.—The banks of the Hooghly, Ganges and Indus, also the Brahmapootra and the Irrawaddy in Upper Burmah. Occurs also in Assam and Northern India. Oates says he observed this Lark near Thayetmyo, where it was common. It runs along the edges of the sand-banks very swiftly, feeding on minute insects which lie at the water's edge. Breeds along the sandy dunes which fringe the Ganges and its numerous affluents, and in similar situations along the Brahmapootra, the Irrawaddy and the Nerbudda. It lays in March, April and May. Hume says it makes a tiny circular nest in some little hollow under a tuft of grass or tamarisk, or beside and partly under a stranded log, the fragments of some old boat, or a large stone. The eggs are 2, sometimes 3 in number; two is however the normal number. In shape, size, markings and general appearance not unlike those of *Pyrrhulauda grisea*.

**901. *Alaudula adamsi***, *Hume, Ibis*, 1871, p. 405; *id.*, *Str. F. i.* p. 213; v. 327; *Murray, Handbk., Zool., &c., Sind*, p. 190.—THE LITTLE SAND-LARK.

The following is a description of the species by Mr. Hume:—

In the winter the whole upper surface is very pale grey or whitey brown, all the feathers narrowly centred with grey brown, so as to produce a striated appearance. There is in many specimens a more or less perceptible, but still very faint rufous tinge on the back. The wings are pale brown, the outer webs of the first primaries nearly entirely cream colour, the other primaries narrowly tipped and margined white; secondaries more broadly; tertiaries and coverts still more broadly margined with fulvous or slightly greyish white; the central tail feathers brown, somewhat conspicuously margined with brownish or fulvous white; the exterior tail feather on either side wholly white, except a dark brown stripe down the inner margin of the inner web; the next feather with the whole exterior web pure white; interior web dark brown; tail feathers dark brown, very narrowly margined with dull white; the lores and a stripe over and under the eye white or rufescent white; a very narrow grey line through the centre of the lores only noticeable in very good specimens or in the fresh bird; ear coverts mingled grey brown and fulvous white, and usually exhibiting a somewhat darker spot just behind and below the posterior angle

of the eye; the lower parts white, with, in some, a very faint rufescent tinge on breast, sides, and flanks, and with numerous narrow or linear darkish brown spots on the breast, very strongly marked, conspicuous in some specimens, reduced almost to speckles in other birds; flanks and sides are faintly tinged with brown, or in some pale rufescent; the irides are pale brown; the bill pale greyish or slaty grey, brownish on culmen and the tip, slightly yellowish white at base of lower mandible; legs and feet fleshy brown, or in some brownish yellow, dusky on joints.

"*Male, Length.*—5·9 to 6·0 inches; expanse 10·4 to 11·0; tail from vent 2·1 to 2·2; wing 3·3 to 3·5; bill at front 0·35 to 0·38; tarsus 0·75 to 0·8; wings, when closed, reach to within 0·7 to 0·8 of end of tail; weight 0·75 oz.

"*Female, Length.*—5·6 to 5·7 inches; expanse 10 to 10·5; tail from vent 2; wing 3·05 to 3·2; bill at front 0·32 to 0·38; tarsus 0·75 to 0·78; wings, when closed, reach to within 0·6 to 0·7 of end of tail; weight 0·6 to 0·7 oz."

*Hab.*—Sind, Punjab, N.-W. Provinces and Oudh, extending to the Himalayas. Resident in Sind, but nothing is known of its nidification, except that Captain Cock, writing to Mr. Hume, mentions having obtained the eggs on the banks of the Jhelum during April and May. The eggs are said to be more glossy than those of *A. raytal*, the ground colour purer white, and less densely spotted and speckled.

#### Gen. *Otocorys*.—*Bonap.*

Bill moderately short, slender, somewhat conical: culmen arched; wing moderately long, not reaching to the tip of the tail; 1st three primaries equal and longest. *No minute* primary. Claws long and straight or nearly so. Head with a double erectile sincipital crest.

**902. *Otocorys penicillata* (Gould), *Jerd., B. Ind.* ii. p. 429, No. 763; *Str. F.* pp. 36, 417; ii. p. 529; vii. p. 422. *Otocorys scriba* (*Bonap*), *Gray, Gen. B.* pl. 92. *Otocorys longirostris*, *Moore, P. Z. S.* 1855, fig.; *Jerd., B. Ind.* ii. p. 431, No. 764; *Str. F.* ii. p. 529; vii. p. 422.—The HORNED LARK.**

Head, neck and back streakless vinaceous ashy, passing to purer grey on the wings; narrow frontal band, lores, ear coverts, and the sides of the neck meeting as a gorget across the breast purple black; the crown and the pointed sincipital tuft also black; forehead, supercilia continued round the ear coverts posteriorly, throat and below the breast white, the latter tinged with yellow; primaries fuscous ashy, the first white externally; tail blackish, except the medial feathers, which are vinaceous ashy, and the outermost and penultimate which have white margins. Bill and feet black.

*Length.*—8 inches; wing 4·5; tail 3; culmen 0·4; tarsus 1.

*Hab.*—The Himalayas, Nepal, Kumaon, also Cashmere.

Gen. **Spizalauda**.—*Blyth*.

Bill as in *Alauda*, with the nostrils protected by bristles, but thicker and Mirafrä-like in its form; wings long; 1st quill minute; the next four about equal and longest as in the true Larks; tertiaries lengthened; hind toe and claw moderately developed but the claws longer than in *Mirafrä*. Coronal feathers lengthened and forming a pointed crest. (*Jerd.*)

**903. *Spizalauda deva*** (*Sykes*). *Jerd.*, *B. Ind.* ii. p. 433, No. 765; *Str. F.* iv. p. 237. *Alauda deva*, *Sykes*, *Cat.* 98. *Mirafrä* Hlayi, *Jerd.*, 2nd *Suppl. Cat.* 188, bis; *id.*, *J. A. S. B.* xiii. p. 959. *Spizalauda malabarica* (*Scop.*), *Hume*, *Nests and Egg Ind. B.* p. 483.—THE SMALL CRESTED LARK.

Upper plumage, including the crest, isabelline or rufous brown, with black mesial streaks; the upper tail coverts plain rufescent; first primary broadly edged with rufescent, and the outermost tail feather and most of the penultimate of the same hue; superciliary streak continued round the back of the head and lower plumage isabelline, the breast with a few dusky striæ; the throat paler isabelline. Bill horny brown, yellowish below; feet fleshy brown; irides dark brown.

*Length*.—5·5 to 5·75 inches; wing 3·3; tail 2; culmen 0·7; tarsus 0·75; hind toe and claw 0·75; crest about 0·75, with a dark brown mesial streak to each feather.

*Hab.*—Southern India, the Carnatic, Deccan, and Central India, the Central Provinces, Punjab, N.-W. Provinces, Oudh, and Behar. Recorded from Lahore, Etawah, Jhansi, Saugor, Mysore, and the Neilgherries. Breeds wherever found. Eggs like those of its congeners.

Gen. **Alauda**.—*Linn.*

Bill cylindrical, conical or subulate; nostrils concealed; wings very long, no spurious quill; 1st, 2nd and 3rd primaries longest, tips of the lesser quill marginate; tail forked, short or moderate; head crested.

**904. *Alauda gulgula***, *Frankl.*, *P. Z. S.* 1831, p. 119; *Jerd.*, *B. Ind.* ii. p. 434; *Hume and Dav.*, *Lahore to Yarkand*, p. 269, pl. xxxix.; *Hume*, *Nests and Eggs* p. 486; *Blyth*, *B. Burm.* p. 95; *Armstrong*, *Str. F.* iv. p. 337; *Oates*, *Str. F.* v. p. 163; *Anderson*, *Yunnan Exped.* p. 605; *Hume and Dav.*, *Str. F.* vi. p. 409; *Legge*, *B. Ceylon.* p. 630; *Hume*, *Str. F.* viii. p. 109; *Scully*, *Str. F.* viii. p. 338; *Hume*, *Str. F.* ix. p. 355; *Oates*, *Str. F.* x. p. 234. *Alauda peguensis*, *Oates*, *Str. F.* iii. p. 342. *Alauda arvensis* (*L.*), *David et Oust.*, *Ois. Chine*; *Oates*, *B. Br. Burm.* i. p. 373.—THE INDIAN SKY LARK.

Head, nape, back, scapulars, and rump dark brown, margined with fulvous crest moderately long; eye streak pale fulvous; ear coverts dusky with a few brown spots; upper tail coverts like the back, tinged slightly with rufous;

wing coverts brown, edged with greyish; primaries and secondaries brown, with rufous or fulvous margins on their outer webs; tail dark brown, outermost feather on each side fulvescent white, except a faint dusky margin on the inner margin of the inner web, the next with the outer web only fulvescent; chin, throat, breast and rest of under surface fulvescent white, deeper on the breast and streaked with dusky; bill horny brown, pale beneath; legs fleshy brown; irides dark brown.

*Length*.—6 to 6.5 inches; wing 3.25 to 3.75; tail 2.25; bill at front 0.37 to 0.5.

*Hab.*—Throughout India to Cashmere and Nepaul; Sind, Kutch, Rajputana, N. Guzerat, Concan, Deccan, Beloochistan, Afghanistan, Punjab, N.-W. Provinces and Cashmere. It is said by Blyth to occur in Arracan. Oates found it abundant in Southern Pegu, and according to Dr. Armstrong it is said to be spread over the whole Irrawady delta. Davison observed it in the plains between the Sittang and Salween rivers and in the immediate neighbourhood of Moulmein. It ranges throughout India, also the Indo-Burmese countries, and Ceylon. Frequents cultivated lands. Breeds during December. The nest is not unlike that of other larks, and is made in depressions in the ground under the shelter of a stone or tuft of grass. Eggs 3—4, white, or greyish-white mottled with brown. Eggs have been taken in the Nilgherries, in the Central Provinces, Central India, Punjab, and N.-W. Provinces.

#### Gen. *Galerida*.—*Boie*.

Bill lengthened, curved slightly; wings with the first primary partially developed, next four sub-equal; head crested.

**905. *Galerida cristata* (Linn.),** *Gould, B. Eur.* pl. 165; *P. E.* 503, i. *Naum. vogt.* t. 99, i.; *Ferd., B. Ind.* ii. p. 437, No. 769; *Blf., East. Pers.* ii. p. 240; *Hume, Str. F.* i. 214; vii. p. 185; *Murray, Hdbk., Zool. &c. Sind,* p. 191.—The LARGE CRESTED LARK.

Head, nape, back, scapulars, rump and upper tail coverts pale sandy or pale rufous brown; the feathers of the crest, and in some specimens, of the forehead also, with a mesial dark brown streak; the back and scapulars with dark-shaft stripes; a pale fulvous streak from the nostrils to above the eye as a supercilium; lores pale fulvous or fulvous white, with, in some specimens, a faint dusky streak in the centre, in front of the eye; feathers below the eye whitish, followed by curved dusky line, then white, and followed by a dusky streak at the base of the lower mandible on each side; chin, throat, sides of the neck and breast white; abdomen, flanks, and under tail coverts sullied white; breast with longitudinal streaks or oval spots; ear coverts pale brown; wings pale brown; the wing coverts edged and tipped pale rufous, also the primaries, secondaries and tertiaries, and all with a broad rufous or pale salmon margin on their inner web, the under wing coverts and wing lining being of this hue; tail dusky or dark brown, the centre feathers broadly

margin'd with rufescent, or mixed rufescent and dusky, the outermost feather on each side rufescent, or rufescent white, except a dusky wash on the inner web; the next margin'd with rufescent white on the outer web, forming a tip of the same colour, and running up and forming a very narrow edge on the inner web for one-half the length of the feathers (this is not constant), rest of the tail feathers very narrowly tipped with rufescent white. Bill yellowish dusky on the ridge of the upper mandible; legs pale brown; irides dark brown.

*Length*.—7 to 7.5 inches; wing 3.75 to 4.25; tail 2.25 to 2.75; bill at front 0.75.

*Hab*.—Universally distributed from sea level to nearly 8,000 feet above the sea; S.-E. Europe, Asia, Africa, throughout India, Persia, Beloochistan, and Afghanistan. Like *A. gulgula* it rises in the air to a great height, soaring up to the sun often so high that the eye cannot follow it, all the while singing, as it advances higher, as if springing up into the higher regions. This is chiefly noticed during the breeding season (April and May). It however descends rapidly, but continues its song till within a few feet of the ground. As remarked by Mr. Hume, this species is variable in size and colouration, so much so, that at least half-a-dozen species have been made by Franklin, Sykes, Jerdon and Blyth. "The examination of a large series," Mr. Hume says, "proves that it is impossible to draw a line anywhere between the largest and the smallest examples. A perfect series of the wings occurs, and as for the difference in tone of plumage, big and little examples are alike met with amongst the brown, rufous, sandy, grey or desert colour types."

#### Gen. *Certhilauda*.—*Sws*.

Bill slender, lengthened, longer than in *Galerida*, more or less curved; nostrils naked; wings long, first quill spurious, next three sub-equal; tail moderate or long, even; hind claw variable.

**906. *Certhilauda desertorum*** (*Stanley*), *Gould, Eur.* pl. 168; *Tem., Pl. Col.* 393; *Jerd., B. Ind.* ii. 439, No. 770; *Hume, Str. F.* i. 216; *Blf., East. Per.* ii. p. 240; *Murray, Zool., &c., Sind*, p. 192; *Gray, Handlist*, No. 7794; *Rupp., Abyss.* pl. 5. *Certhilauda doriae*, *Salv., Atti. R. Acad. Sci. Tor.* iii. 1868, p. 292.—THE DESERT LARK.

Head, nape, back, scapulars and rump isabelline or pale earthy grey, slightly tinged with fulvescent on the back and scapulars; upper tail coverts pale brown, edged with whitish; supercilium, a small patch under the eye, chin and throat white; ear coverts fulvous white; a spot in front of the eye, another behind the eye just above the ear coverts, and a streak from the gape, dark brown; feathers of the breast dusky or dark brown, edged and tipped with white; the lower breast with a few dark brown oval spots; sides of the breast isabelline or pale earthy grey, tinged with fulvescent; rest of under surface, including the vent and under tail coverts, white; primaries and their



coverts dark brown, nearly black; the primaries basally white, and their coverts margined and tipped with white; first primary pale brown, very short; second twice its length, and a third shorter than the third; secondaries white, dark brown on the middle of each feather, the dark brown broadest on the first secondary of the sixth quill, and decreasing obliquely in extent on the next and following, towards their bases, till on the last it forms a small spot; tertiaries fulvescent, broadly shaded in the middle along the shaft with dusky, and all with obsolete dusky transverse barrings; wing coverts pale brown, edged with fulvescent; edge of the wing and under wing coverts white; tail dark brown, graduated; the centre feathers fulvescent, shaded with dusky or pale earthy brown, the outermost on each side margined on the outer web and tipped white, the next very narrowly margined and tipped whitish, and the rest with very faint margins of fulvescent, and all with obsolete dusky transverse barrings. Bill horny, darker on the ridge and yellowish white at the base of the lower mandible; irides brown; legs china white.

*Length*.—9 to 11 inches; wing 5 to 5.45; tail 3.75 to 4.2; bill at front 1.1 to 1.2.

*Hab.*—S.E. Europe, N. Africa, Arabia, Sind, Punjab, N.W. Provinces, Beloochistan, Persia and Afghanistan. Inhabits desert places and sandy tracts.

Tristram has an interesting account of this species in Vol. i. of the "Ibis," p. 527. It runs with great rapidity and is never found congregated in flocks. Mr. Hume (*S. P.* i. 216) says "they never apparently fly if left undisturbed, but run about with their little porcelain white legs twinkling in the sunlight, hither and thither, for all the world like miniature coursers." Tristram however says "he has watched it in the early morning, rise perpendicularly to some elevation, and then suddenly drop, repeating these gambols uninterruptedly over exactly the same spot for nearly an hour. Except in this there is nothing of the lark in its flight."

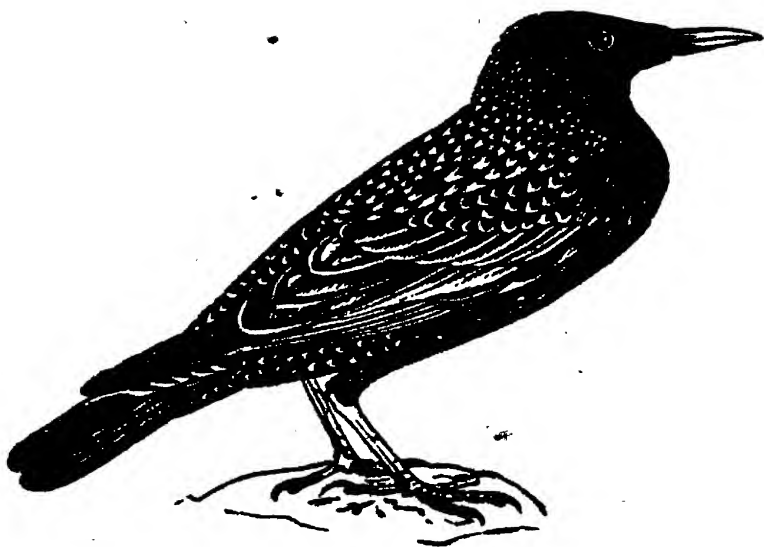
## SECTION.—OSCINES CULTIROSTRES.

### Family.—STURNIDÆ.—STARLINGS.

Bill straight or very slightly curved, rather long pointed and compressed, often angulated at the base, the tip entire or slightly notched; wings long and pointed; tail moderate; tarsus strong; nostrils on each side covered with feathers. They walk freely on the ground, fly well, are gregarious, and live on fruit, insects, grain, and some on the ordure of cattle. They nidificate under the eaves of roofs or in holes of trees. Some are intelligent and are caged, and taught to utter long and amusing sentences. The Indian species may be said to be divided into Starlings and Mynahs; Glossy Mynahs or Grakles.



AVIFAUNA OF BRITISH INDIA.



**STURNUS VULGARIS, *Linn.***

**Sub-Family.—STURNINÆ.**

Bill with the sides compressed, tip rather blunt and flattened; wings long and pointed; tail rather short; tarsi strong, scutate in front; toes long and strong.

**Gen. Sturnus.—Linn.**

Bill sharp, straight, and with a conical groove; nostrils feathered; 2nd quill longest.

**907. *Sturnus vulgaris* (Lin.),** *Gould, B. Eur.* pl. 210; *P. E.* 76; *Naum. vogt.* t. 62; *Ferd., B. Ind.* ii p. 321, No. 681; *Murray, Vert. Zool., Sind,* p. 178; *id., Zool. Bel. and Afgh.*—The COMMON STARLING.

Head, neck, nape, chin, throat, breast and back black, glossed with purple, bronze, and green in different lights, the latter predominating on the head and neck, each feather tipped with a small brownish white triangular or round spot, which, in very old birds, wear out on the head and neck chiefly. Greater and lesser wing coverts dusky, edged with pale reddish brown; primaries, secondaries and tertiaries also dusky, their outer webs glossed green, margined with light reddish brown; tail short, dusky, their outer webs more or less glossed with green and edged with pale reddish brown or buffish; under tail coverts black, edged with white. Bill black; legs dark brownish red.

*Length.*—9 inches; wing 5; tail 3; bill at front 1·25.

*Hab.*—Europe, Asia, and India generally during winter, to the Himalayas. More common in Sind and the North-West Provinces, associating in large flocks. It is said by Theobald to breed in Cashmere. Eggs 4—6, pale bluish green.

**908. *Sturnus minor*,** *Hume, Str. F.* i. p. 207; v. p. 328; *Murray, Hdbk., Zool., &c., Sind,* p. 175; *id., Vert. Zool. Sind,* p. 178; *Str. F.* v. p. 328.—The LESSER STARLING.

“The general character of the plumage is like that of the ordinary Starling, but in the first place, whereas in the common Starling the reflexions of the head are purple and of the back green; in these birds, the head is green and the back purple; secondly, whereas in the common Starling the wing varies from 5 to 5·35 and the tarsus from 1·1 to 1·2; in these birds the wing is only 4·3 and the tarsus barely 1; the bills are about the same length as the common Starling, measuring exactly an inch in front, but they are more pointed, have a more decided culmen ridge, and are less broad at the base.”—(*Hume.*)

*Hab.*—Sind; breeds from March to June.

Eggs not unlike in shape those of the common Starling, but decidedly smaller, a light pale bluish green, the shell finely pitted.

**909. *Sturnus unicolor* (Marmorata), Gould, *B. Asia*, pl. 211; *Ferd.*, *B. Ind.* ii. p. 322, No. 682. *Sturnus nitens*, *Hume, Str. F.* iii. p. 409; v. 328.—The GLOSSY BLACK STARLING.**

Glossy black throughout, with a few or without any speckles of white.

*Length.*—9·5; wing 5·1; tail 1·75; bill at front 1.

*Hab.*—Europe; also in Sind and the N.-W. Provinces of India to Cashmere, and Afghanistan, where it is said to breed, building in holes of trees, in river banks and in old buildings, making a loose nest of grass and thin sticks, and laying 4—6 eggs, more or less pyriform in shape, and of an uniform pale bluish green colour.

Gen. ***Sturnopastor***.—*Hodgs.*

Bill nearly straight, more depressed than in *Sturnus*; orbits bare; plumage pied.

**910. *Sturnopastor superciliaris*, Blyth, *J. A. S. B.* xxxii. p. 77; *Hume, Nests and Eggs Ind. B.* p. 427; *id.*, *Str. F.* iii. p. 149; *Armstrong, Str. F.* iv. p. 331; *Hume and Dav.*, *Str. F.* vi. p. 387; *Hume, Str. F.* viii. p. 106; *Oates, B. Br. Burm.* i. p. 378. *Sturnopastor contra* (L.), *Blyth, B. Burm.* p. 90. *Sturnopastor contra*, var. *superciliaris*, *Anderson, Yunnan Exped.* p. 594.—The BURMESE PIED MYNAH.**

Forehead streaked with white, which and the nape, also the sides of the neck, chin, throat and upper breast are glossy black; lores, supercilium, cheeks, ear coverts and entire under plumage white; back, rump and upper tail coverts dark brown; a band of white across the lower rump; wings and tail dark brown; the greater wing coverts black, the median series white, the lesser coverts black, margined with white, the tertiaries broadly margined with white.

Gape and basal half of bill orange, the rest yellowish white; mouth black; eyelids orange yellow; irides pale yellow; legs and claws brown.

*Length.*—9 inches; wing 4·5; tail 2·6; tarsus 2; bill from gape 1·45.

*Hab.*—British Burmah—except Tenasserim—extending as far as Bhamo. Like the other species is found about houses, and among grazing cattle. Oates says it breeds in Burmah from April to June, making a large nest of grass and straw, placing it on the lower bough of a tree. Eggs 4—5 in number, blue to pale sky blue in colour, rather glossy, 1·0 × 0·82.

**911. *Sturnopastor contra* (Linn.), *Ferd.* ii. p. 323, No. 683; *Oates, B. Br. Burm.* i. p. 379; *Hume, Nests and Eggs Ind. B.* p. 426.—The PIED MYNAH.**

Head, neck and upper breast glossy black; ear coverts, supercilium, upper and under tail coverts, also an oblique wing bar and rest of the under surface, white, the latter tinged with reddish ash. Bill reddish at base, yellow at the tip; legs yellowish; orbital ring orange yellow; irides brown.

*Length*.—9 inches; wing 4·75; tail 2·75; culmen 1·1; tarsus 1·25.

*Hab.*—Nearly throughout the Indian Peninsula, except in the South and South-West. Jerdon says it is found throughout Bengal up to the foot of the Himalayas. It is said to be more common in the Northern Circars than anywhere else, thence inland to Hyderabad, Nagpore, and Saugor (Central Provinces) and through Bundelcund to Allahabad. It breeds, according to Hume, throughout the N.-W. Provinces and Oudh, Bengal, the Eastern portions of the Punjab and Rajputana, the Central Provinces and Central India. The breeding season lasts from May to August. The nests are built in trees (a shapeless mass of rubbish), at the extremities of lateral branches, made up of straw, grass, twigs, roots and rags, with a deep cavity lined with feathers. The eggs, Hume says, are moderately broad ovals, a good deal pointed towards one end, but pyriform and elongated examples also occur. The eggs are spotless blue and commonly brilliantly glossy, having also a tinge of green. In length they vary from 0·95 to 1·25, and in breadth from 0·75 to 0·9, the average of 100 being 1·11 × 0·82.

Gen. **Acridotheres**.—*Vieill.*; *Gracula*, *Cuv.*

Bill stouter and shorter than in *Sturnus*. Culmen deflected at tip; nostrils concealed by the frontal plumes; tail rounded; tarsi stout; a naked space usually behind the eye; head crested or sub-crested; its quill rudimentary.

**912. *Acridotheres tristis* (Linn.),** *Jerd.*, *B. Ind.* ii. p. 325, No. 684; *Hume, Nests and Eggs Ind. B.* p. 428; *Blyth, B. Br. Burm.* p. 89; *Oates, Str. F.* v. p. 160; *Hume and Dav., Str. F.* vi. p. 388; *Anderson, Yunnan Exped.* p. 593; *Cripps, Str. F.* vii. p. 290; *Hume, Str. F.* viii. p. 106; *Scully, Str. F.* viii. p. 330; *Murray, Vert. Zool. Sind*, p. 178; *Oates, B. Br. Burm.* i. p. 379.—THE COMMON MYNA.

Head sub-crested; nape, neck behind, chin, throat and breast glossy black; back, scapulars, rump and upper tail coverts brown; wing coverts, primaries and secondaries black; edge of the wing and the base of the primaries white, forming a conspicuous wing patch; tail black, the feathers tipped white; lower abdomen, vent and under tail coverts white. Bill and orbits deep yellow; legs dull yellow; irides reddish.

*Length*.—9·5 to 10 inches; wing 5·25; tail 3·5; bill at front 0·8 to 0·9.

*Hab.*—Throughout India to Assam, Burmah and Ceylon, and a resident everywhere; breeding in holes of trees, roofs of houses and almost anywhere, except on the ground, from June to August. Eggs 4, of a glossy pale green, greenish or deep bluish green colour.

**913. *Acridotheres ginginianus* (Lath.),** *Lev., O. A.* t. 952; *Jerd.*, *B. Ind.* ii. p. 326, No. 685; *Murray, Hdbk., Zool., &c., Sind*, p. 175; *id., Vert. Zool., Sind*, p. 179; *Hume, Nests and Eggs Ind. B.* i. p. 29; *Oates, B. Br. Burmah*, p. 382.—THE BANK MYNA.

Head, nape, sides of the face, lores and ear coverts black; chin, throat, breast, flanks and outer thigh coverts cinereous or dark ashy; neck, the back, rump and upper tail coverts dark ashy; wings black, edge of wing and wing spot orange buff or ferruginous; tail black, the feathers tipped with dull ferruginous; middle of abdomen, vent, under tail, and inner thigh coverts pale ferruginous. Bill yellow, red at the tip; orbits and nude spot behind the eye red; feet dull yellow.

*Length*.—8·5 to 9 inches; wing 5; tail 3·25; bill at front 1·25.

*Hab.*—India, generally to Assam and Burmah; common in Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Central India, Deccan, Concan, Kutch, Kattiawar and Jodhpore. Breeds in nearly every locality it is found, either in holes in earthen banks and cliffs, from April to August; eggs generally 4—5. Like the rest of the family the eggs are spotless, very glossy, and of different shades of very pale sky and greenish blue.

**914. *Acridotheres fuscus* (Temm.).** *Jerd., B. Ind.* ii. p. 327, No. 686; *Hume, Nests and Eggs Ind. B.* p. 431; *Blyth, B. Burm.* p. 90; *Armstrong, Str. F.* iv. p. 332; *Oates, Str. F.* v. p. 160; *Hume and Davison, Str. F.* vi. p. 388; *Anders., Yunnan Exped.* p. 594; *Cripps, Str. F.* vii. p. 291; *Hume, Str. F.* viii. p. 106; *Scully, Str. F.* viii. p. 330; *Oates, B. Br. Burm.* i. p. 380.—The JUNGLE MYNAH.

Entire head, including the nasal plumes, frontal crest, ear coverts and nape glossy black; back, rump, and upper tail coverts fuscous black tinged with vinous; scapulars the same; primaries black, with a white spot near the base, and tipped with bronze; secondaries black, broadly edged with bronze on the outer webs; tertiaries and upper wing coverts wholly bronze; tail brownish black, the feathers tipped with white, but more narrowly on the middle feathers; chin, throat and breast cinereous brown, albescent on the abdomen, the sides of the body having a ruddy tinge in some specimens; under tail coverts white; under wing coverts black. Bill bluish black at base, orange yellow at tip; irides variable, greyish white, pale yellow or bright gamboge yellow; legs orange yellow.

*Length*.—9·5 inches; tail 3; wing 4·7; tarsus 1·45; culmen 0·8.

*Hab.*—Nearly throughout India. Occurs in the Punjab and N.-W. Provinces as a summer visitant, where it breeds in favourable localities. In South India it occurs on the Neilgheries, also in Mysore and the Wynaad. In British Burmah, Oates says, it is found abundantly in all parts as far South as Mergui. It also inhabits the Malay Peninsula. It is found also in Central India and the Central Provinces, Lower Bengal, Assam, Nepaul, Cachar and a considerable portion of Western India. Their breeding habits are not unlike those of *Acrid. tristis*, and the eggs too, which can be scarcely distinguished from them. *Acridotheres albocinctus*, a species distinguished by its conspicuous

white collar, is said to be found in Manipur, which is not British territory; it is possible however that it may be found in Tenasserim.

**915. *Acridotheres siamensis*, Swinhoe, P. Z. S. 1863, p. 303; Wald. in Blyth, B. Burm. p. 90; id., Trans. Zool. Soc. ix. p. 203; Wardlaw-Ramsay, Ibis, 1877, p. 460; Hume and Davison, Str. F. vi. p. 388; Anders., Yunnan Exped. p. 594; Hume, Str. F. viii. p. 106; ix. p. 285; Oates, B. Br. Burm. i. p. 381.**—THE SIAMESE MYNAH.

Upper plumage black, lower blackish brown, except the under tail coverts, which are pure white with black bases; tail black, broadly tipped with white; wings black, glossed with bronze, the primaries with a large patch of white near their bases. Feathers of the head very narrow and pointed; frontal plumes long, about 0·75 inch. Bill orange yellow; irides pale chocolate; legs dusky yellow. (*Wardlaw-Ramsay*, ex. *Oates*, *B. Burm.*)

*Length*.—10 inches; wing 5·2; tail 3·5; tarsus 1·5; bill from gape 1·3.

*Hab*.—Karenne, at an elevation of 3,000 feet, where it was obtained by Capt. Wardlaw-Ramsay. It is found in Siam and abundantly so in Cochin-China. Dr. Anderson, Oates says, found it at Bhamo in Native Burmah.

#### Gen. *Sturnia*.—*Less.*

General characters same as those of *Acridotheres*. Bill less stout, barely deflected at tip; 1st and 2nd primaries sub-equal; head usually crested.

**916. *Sturnia pagodarum* (Gmel.), *Jerd.*, B. Ind. ii. p. 329, No. 687; Hume, Nests and Eggs Ind. B. p. 432; Ball, Str. F. ii. p. 419. *Sturnia pagodarum*, Blyth, B. Burm. p. 90; Legge, B. Ceylon, p. 677; Hume, Str. F. viii. p. 106. *Temenuchus pagodarum*, Murray, Vert. Zool. Sind, p. 179; Oates, B. Br. Burm. i. p. 382. *Turdus pagodarum*, Gmel., Syst. Nat. i. p. 816.**—THE BLACK-HEADED MYNAH.

Head, with the long crest, nape and lores black; ear coverts, sides of the neck and behind, breast and abdomen, fulvous or pale orange buff, the feathers with mesial whitish streaks; back, scapulars, outer webs of secondaries and tertiaries grey, the innermost tertiaries entirely grey; primaries dark brown, edged with black on their outer webs; edge of wing under wing, and under tail coverts and the vent white; tail dark brown, the feathers broadly tipped white; the centre feathers grey like the back. Bill bluish at base, rest yellow; irides whitish; legs bright yellow.

*Length*.—8·5 to 9 inches; wing 4·2; tail 3; bill at front 0·37.

*Hab*.—India, Ceylon, Cashmere, Assam, Burmah; common in Southern India and in the Carnatic; also Travancore and the Northern Circars. Occurs also in Sind, Punjab, N.-W. Provinces, Deccan and Concan, but not in any numbers; usually in company with *Acridotheres tristis*.



**917. *Sturnia sturnina* (Pall.),** *Hume and Dav., Str. F.* vi. p. 393 ; *Hume, Str. F.* viii. p. 106 ; *Bingham, Str. F.* ix. p. 193 ; *Oates, B. Br. Burm.* p. 383. *Gracula sturnina*, *Pall. Reis. Russ. Reichs* iii. p. 965 ; *Gm., Syst. Nat.* i. p. 399 ; *Wald., Trans. Zool. Socy.* ix. p. 204. *Sturnia dauricus*, *Pall., Act. Holm.* 1778, p. 197, t. vii. ; *Gm., Syst. Nat.* i. p. 806 ; *Pall., Zoogr. Rosso. Asiat.* i. p. 422. *Pastor malayensis*, *Eyton, P. Z. S.* 1839, p. 103. *Temenuchus dauricus*, *Hume, Str. F.* ii. p. 249 ; *David et Oust. Ois. Chine*, p. 362. *Sturnia daurica*, *Salvad, Ucc. Born.* p. 270. *Calornis daurica*, *Bl. and Wald., B. Burm.* p. 91.—THE DAURIAN MYNAH.

Head grey, with a spot of metallic purple on the crown ; neck, under wing coverts and axillaries, also the whole lower plumage, grey ; chin and throat tinged with fawn ; vent and under tail coverts buff ; back, rump and lesser wing coverts metallic purple ; a band of buff across the rump ; tail metallic green, the outer webs of the outer pair of feathers buff ; median wing coverts black, broadly tipped with white and tinged with buff ; greater coverts black, edged with metallic green ; the scapulars with most of their outer webs buff, and the inner webs black at base and buffy brown at the ends ; primaries brown, edged and tipped with metallic green, and the first few primaries further edged mesially with buffy brown ; secondaries brown, edged with metallic green, and with a patch of buffish brown near the base of the outer webs. In some birds the grey of the head and neck is produced on to the upper back, and is streaked with brown. (*Oates.*) Legs and feet dull earthy green ; the bill varies from black to brown, blue or whitish, and is greenish at the base of the lower mandible. (*Davison.*) Irides dark brown, claws horn colour. (*Bingham.*)

*Length.*—7·5 inches ; wing 4 ; tail 2 ; tarsus 1·1 ; bill from gape 1.

*Hab.*—Malay Peninsula, Cochin-China and the Island of Java. A winter visitor to British Burmah. *Oates* says, Mr. *Davison* procured it in Tenasserim from Moulmein down to Mergui, and that Captain *Bingham* got it on the banks of the Hoongdraw River. Abundant near Tavoy, going about in small flocks.

**918. *Sturnia sinensis* (Gmel.),** *Blyth and Walden, B. Burm.* p. 91 ; *Dav. et Oust. Ois. Chine*, p. 363 ; *Hume, Str. F.* vii. p. 514 ; viii. p. 106 ; ix. p. 118 ; *Oates, Str. F.* x. p. 229 ; *id., Birds Br. Burm.* i. p. 384. *Oriolus sinensis*, *Gm., Syst. Nat.* i. p. 394. *Pastor elegans*, *Less. Voy. Belanger*, p. 266, pl. 6.—THE CHINESE MYNAH.

Forehead, crown, lores, round the eye, the chin, rump and upper tail coverts, also the flanks, under tail coverts, axillaries, and under wing coverts rosy ferruginous ; nape and back deep grey ; sides of the neck, throat, breast and abdomen lighter grey than the back ; ear coverts grey tinged with ferruginous ; wings, primary coverts and winglet black ; the tertiaries suffused with metallic blue, the other feathers edged with the same ; wing coverts white, the greater series suffused with rosy ferruginous ; tail black, the middle pair

narrowly, the others broadly, tipped with ferruginous. After moulting the rosy ferruginous fades to whitish.

The young are uniform greyish brown, with the wing coverts pure white. Bill blue; the mouth darker blue; iris white; legs plumbeous; claws horn colour.

*Length*.—8 inches; wing 4; tail 2·6; tarsus 1·1; bill from gape 1·1. (*Oates*.)

*Hab*.—Cochin-China and Pegu in British Burmah during winter, retiring, it is said, to South China in the summer, where, according to P  re David, it breeds in holes of the roofs of houses. The birds, Oates met in Pegu, were feeding on the ground in small flocks.

**919. *Sturnia burmannica*, *Ferd.*, *Ibis*, 1862, p. 21; *Blyth and Wald. B. Burm.* p. 90; *Hume, Str. F.* viii. p. 106; *Oates, Str. F.* x. p. 230; *id.*, *Birds Br. Burm.* i. p. 385. *Temenuchus burmannicus*, *Hume, Str. F.* iii. p. 149; *Armstrong, Str. F.* iv. p. 332.—JERDON'S MYNAH.**

Whole head and upper breast dull white; back and scapulars ashy brown; rump and upper tail coverts paler; central pair of tail feathers dark ashy brown, the others blackish, all broadly tipped with white; breast and abdomen vinous; vent and under tail coverts fulvous white; under wing coverts and axillaries white; primaries dark brown, tipped paler, and the bases of all pure white; primary coverts white, with a little black near the base of the outer feathers; secondaries, tertiaries and wing coverts bronze, each feather very narrowly margined with black on the outer web.

Iris dark brown; eyelids and naked skin of the head slaty brown; the gape, the basal half of the lower mandible and the base of the upper mandible black, the remainder of the bill black; mouth dark blue; legs and claws dusky orange brown.

*Length*.—9 inches; wing 4·6; tail 3·1; tarsus 1·3; bill from gape 1·2. (*Oates*.)

*Hab*.—British Burmah. Oates says abundant in Pegu, especially round about Thayetmyo. It has been procured at Tonghoo and in Karenne. In the Irrawaddy it has been found as far north as Mandalay. He adds that it is a resident species, and is generally found in large flocks, feeding on the ground, in gardens and road sides, as well as in fields.

**920. *Sturnia leucocephala*, *Gigl. and Salv., Atti. R. Acc. Sc. di. Tor.* v. p. 273; *id.*, *Ibis*, 1870, p. 185; *Oates, B. Br. Burm.* i. p. 386. *Sturnia incognita*, *Hume, Str. F.* viii. p. 396; ix. p. 295.—HUME'S MYNAH.**

Forehead, crown, occiput, crest and sides of the occiput dull earthy brown; chin, throat and sides of the head dusky brown; nuchal collar vinous buff; breast, upper abdomen, sides and flanks vinous; middle of lower abdomen, vent, tibial plumes and under tail coverts sullied white, tinged in some

specimens with vinous; axillaries, under wing coverts, the bases of the primaries and greater coverts white; primaries black on the outer and brownish on their inner webs; secondaries and their coverts bronze-brown; scapulars, back and lesser wing coverts black, with in some lights greenish reflections; upper tail coverts pinkish white or vinous buff; tail black, all the feathers broadly tipped with white, the central pair very narrowly so. Bill orange, reddish at the base, yellower at the tip; legs and feet yellow; orbital skin below the eye extending behind for about half an inch blue black.

*Length*.—9 to 10 inches; wing 4·75 to 5·1; tail 3 to 3·4; tarsus 1·28 to 1·4; bill from forehead 1 to 1·1.

*Hab*.—Cochin-China, British Burmah and the hilly frontier dividing Tavoy from Siam.

**921. *Sturnia malabarica* (Gmel.), Blyth and Wald., B. Burm.** p. 90; *Hume and Dav.*, *Str. F.* vi. p. 380; *Oates, Str. F.* vii. p. 48; *Hume, Str. F.* viii. p. 106; *Oates, B. Br. Burm.* i. p. 387. *Turdus malabaricus*, Gm., *Syst. Nat.* i. p. 816. *Temenuchus malabaricus*, *Ferd.*, *B. Ind.* ii. p. 330; *Hume, Nests and Eggs*, p. 433; *Ball, Str. F.* ii. p. 419; *Armstrong, Str. F.* iv. p. 332; *Anderson, Yunnan Exped.* p. 596.—The GREY-HEADED MYNAH.

*Male in new Moult*.—Forehead, feathers over the eye and throat whitish; the whole upper plumage dark grey, tinged with ferruginous on the rump and upper tail coverts; the shafts of the feathers of the head and neck whitish; *winglet, primary coverts and all the primaries black*, the latter tipped with grey; remainder of the wing blackish, all the feathers tipped and edged on the outer web with grey; the central pair of tail feathers grey, the others brown at the base and tipped with dark ferruginous; cheeks and ear coverts pale rufous grey; chin, throat and upper breast rufous grey, the feathers with white centres; rest of the lower plumage deep ferruginous, darker on the under tail coverts. Bill blue at base, greenish in the middle and yellow at the tip; leg brownish yellow; claws greenish; iris light blue.

*Length*.—8 inches; wing 4·1 to 4·2; tail 2·7 to 2·09; tarsus 0·9; bill from gape 1.

Later on, abrasion of the feathers begins and the colours fade, the grey becoming brownish and the ferruginous of the lower surface fading into pale rufous.

*Hab*.—The Indo-Burmese countries, and a great portion of the Indian Peninsula. Oates says it is spread over Arrakan, the southern portion of Pegu, and in some parts of Tenasserim. Common all over Rangoon, also in Northern India, and in Lower Bengal, extending to the N.-W. Provinces and Central India, where it is found in small numbers. In South India and along the Rutnagherry coast it is only a winter visitant. It also occurs in Assam in small numbers. Like its congeners it lives on various fruits, seeds, insects, &c. Its nidification, too, is not unlike that of its congeners in every particular.

**922. *Sturnia Blythi*, *Jerd.*, *B. Ind.* ii. p. 331, No. 689; *Str. F.* vi. p. 391; *Jerd.*, *Ill. Ind. Orn.* pl. 22.—The WHITE-HEADED MYNAH.**

Head, crest, neck, throat and breast silky white; back and scapulars grey; under surface of the body deep rufous; *wing coverts and outer webs of the quills and all the tertiaries grey*; quills black, tipped with grey; central feathers of the tail dark grey, blackish at base, the outer feathers deep ferruginous brown, their bases dusky.

Bill blue at base, greenish in the centre, yellow at the tip; irides greyish white; legs reddish yellow.

*Length*.—8·5 inches; wing 4·2; tail 3; culmen 0·7; tarsus 1.

*Hab*.—Malabar forests to 2,000 feet in the Wynaad and the slopes of the Ghats. Jerdon says it is found from the extreme south of the Malabar Coast to about north lat. 15° or 16°. It is entirely arboreal, living in small flocks and keeping to the tops of high trees, feeding on various insects and larvæ, small shells, and occasionally on fruit.

**923. *Sturnia nemoricola*, *Jerd.*, *Ibis*, 1862, p. 22; *Blyth and Wald.*, *B. Burm.* p. 91; *Hume and Davison*, *Str. F.* vi. p. 390; *Oates*, *Str. F.* vii. p. 48; *Hume*, *Str. F.* viii. p. 106; *Oates*, *B. Br. Burm.* i. p. 389. *Temenuchus leucopterus*, *Hume*, *Str. F.* ii. p. 48 (note). *Temenuchus nemoricola*, *Str. F.* iii. p. 151; *Armstrong and Hume*, *Str. F.* iv. p. 333.—The WHITE-WINGED MYNAH.**

Not unlike *Sturnia malabarica* in general appearance. After the moult, the forehead and crown as far back as the eyes, also the chin, throat and breast are a pearly grey; lower plumage rosy buff; *winglet, primary coverts and the first primary white*.

*Length*.—8 inches; wing 4·1; tail 2·7; tarsus 0·9; bill from gape 1.

*Hab*.—British Burmah, extending into Cochin-China and to Thayetmyo in the Irrawaddy Valley. *S. erythropygia*, Blyth, occurs in the Nicobars.

#### Gen. *Calornis*.—*G. R. Gray*.

General characters as in *Sturnia*; plumage glossy black.

**924. *Calornis chalybea* (*Horsf.*), *Salvad.*, *Ucc. Born.* p. 271; *Blyth and Wald.*, *B. Burm.* p. 91; *Tweed.*, *Ibis*, 1877, p. 318; *Hume and Dav.*, *Str. F.* vi. p. 394; *Hume*, *Str. F.* viii. p. 101. *Turdus chalybeus*, *Horsf.*, *Trans. Lin. Soc.* xiii. p. 148; *Wald.*, *Trans. Zool. Soc.* viii. p. 79. *Turdus strigatus*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 307. *Calornis affinis* (*A. Hay*), *Blyth*, *J. A. S. B.* xv. pp. 36, 369; *id.*, *B. Burm.* p. 91; *Wald.*, *Ibis*, 1875, p. 461. *Calornis Irwini*, *Hume*, *Str. F.* i. p. 481. *Calornis Tytleri*, *Hume*, *Str. F.* i. p. 480; vi. p. 396.—The GLOSSY BLACK MYNAH.**

Whole plumage above and below black, with a brilliant green gloss; lores and feathers at the base of upper mandible unglossed black; wings and tail black, only slightly glossed bluish. Bill, legs and feet black; irides crimson.

The young have the upper plumage brownish glossed with green; wings brown, with a paler edging; under surface of the body buffy white, streaked with greenish brown; legs and feet brownish or blue-black; irides yellowish white.

*Length.*—8·5 inches; wing 4·1; tail 3·2; tarsus 0·9; bill from gape 1.

*Hab.*—The Malay Peninsula, Sumatra, Java, Borneo and British Burmah, also the Andaman Islands and Arracan. Oates says it has been met with in Chittagong, Tipperah, Cachar and Dacca. Davison says that about Male-woon and Bankasoon it is very abundant in smaller or larger flocks. They are very noisy birds, and have a sharp metallic single note. The eggs are said to be "green, or light blue with brown spots and marks, closest together at the thick end of the egg."

Gen. **Pastor.**—*Tem.*

Bill short, compressed, curving from the base, slightly deflected at the tip; groove of nostril clothed with short plumes; 2nd quill longest; 1st spurious; tarsus scutate; tail even; head with an occipital crest.

**925. *Pastor roseus* (Lin.),** *Gould, Birds of Eur.* pl. 212; *Naum. vogt.* t. 63; *Jerd., B. Ind.* ii. p. 333, No. 690; *Blf., East. Persia* ii. p. 267; *Str. F.* i. p. 208; iii. pp. 208, 495; *Murray, Hdbk., Zool., &c., Sind,* p. 176; *Murray, Vert. Zool., Sind.* *Pastor peguanus, Less. Pastor suratensis et seleucus, Gm., Syst. Nat.*—The ROSE-COLOURED PASTOR.

Head, crest, crown, neck on the back and nape black, glossed with bluish purple; chin and throat black; entire back, breast, rump and upper tail coverts pale salmon or delicate rose colour; wing coverts black, the lesser series margined with grey, and the greater series glossy black with purple reflections; primaries dark brown, tinged with greenish; some of the secondaries glossy black, also with green reflections, and others only so on the outer web; tail greenish black; under tail coverts black. Bill yellowish rose; legs yellowish brown; irides deep brown.

*Length.*—9 to 9·5 inches; wing 5·25; tail 3; bill at front 0·8.

*Hab.*—S.-E. Europe, Asia Minor, India, Ceylon and Assam. In the Deccan and the Carnatic they come about November, and this is the time they come in throughout Western India. They are very voracious feeders, and commit great havoc among the jowaree and bajree crops, and in fact corn of any kind, flower buds, and small fruits, as mulberries, capers, &c. A winter visitant in most parts of India; arrives in Sind about the beginning of April in large flocks; in the Punjab and N.-W. Provinces in August. Occurs also as a migrant in Beloochistan, Persia, Afghanistan and Eastern Turkistan.

AVIFAUNA OF BRITISH INDIA.



PASTOR ROSEUS, *Linn.*



**Sub-Family.**—LAMPROTORNINÆ.—GRAKLES OR HILL MYNAHS.

Bill stouter than in the *Sturninæ*; culmen more or less curved and hooked, tip notched; nostrils more or less hidden by the frontal plumes; wings long or moderate and pointed; tarsi short and stout; plumage glossy. Like the *Sturninæ*, all the species live on fruit and insects, and nidificate in holes of trees or in rocks, and like them associate with cattle.

**Gen. Gracula.**—Linn.

General characters of the sub-family; head with naked wattles; habits frugivorous; the species hop instead of walk on the ground.

**926. Gracula intermedia**, *A. Hay, Madras Journ.* xiii. pt. ii. p. 157. *Eulabes intermedia*, *Jerd., B. Ind.* ii. p. 339; *Ball, Str. F.* i. p. 77; *Blyth and Wald., B. Burm.* p. 89; *Wardlaw-Ramsay, Ibis*, 1877, p. 460; *Oates, Str. F.* x. p. 230; *Oates, B. Br. Burm.* i. pp. 392-393. *Eulabes Andamanensis (Tytler)*, *Beavan, Ibis*, 1867, p. 331; *Wald., Ibis*, 1871, p. 176. *Eulabes Javanensis (Osborn)*, *Hume, Str. F.* ii. p. 254; *id., Nests and Eggs Ind. B.* p. 436; *id., Str. F.* iii. p. 153; *Armstrong, Str. F.* iv. p. 335; *Bingham, Str. F.* v. p. 86; *Hume and Dav., Str. F.* vi. p. 396; *Hume, Str. F.* viii. p. 106. *Corvus Javanensis, Osborn, Voy. to China*, i. p. 157. *Eulabes Javanensis, Wald., Ibis*, 1871, p. 176.—THE MALAYAN TALKING MYNAH.

Whole plumage black, the feathers broadly edged with shining metallic lilac and green; head, mantle and breast lilac; rump and upper tail coverts green; chin green, tinged with blue; wings and tail unglossed blackish brown; 1st six primaries with a white patch on the inner webs, the 2nd to the 7th with the same on the inner; wattles and naked skin of the head yellow, tinged with orange; corner of the eye tinged with blue; legs yellow.

*Length.*—11·6 to 12 inches; wing 6·5 to 6·8; tail 3·3; bill from gape 1·5 to 1·6.

*Hab.*—British Burmah, the hill tracts of Bengal as far as Kumaon, the Central Provinces, and the Andaman Islands. Extends to the Malay Peninsula, and is met with in Sumatra, Java, Bangka, Borneo and Palawan. According to Blyth it inhabits Siam, and Dr. Tiraud says Cochin-China. This species frequents jungles in small companies, and feeds entirely on fruit. On account of their varied notes, they are favourite cage birds, and are said to excel the best of parrots in the repetition of long sentences. According to Oates, Captain Bingham found the nest of this species in Tenasserim in April in the hollow of a stump of a broken branch. The nest consisted of a little grass and a few twigs. The single egg found, with three young birds, was light blue, spotted with purplish brown.

**927. Gracula religiosa (Linn.)**, *Jerd., B. Ind.* ii. p. 337, No. 692.—THE SOUTHERN HILL MYNAH.

Whole plumage glossy purplish black, with green reflections on the lower back and upper tail coverts; under surface less bright; wings and tail deep



black; 1st seven primaries with a white spot, forming a conspicuous wing band; wattles begin from below the eye, and form a large loose lappet. Bill orange; wattles deep yellow; irides dark brown.

*Length*.—10 inches; wing 5·6; tail 2·8; culmen 1.

*Hab*.—The forests of Malabar, Wynaad, Coorg and the Northern Circars. Found in parties of 5—6.

Gen. **Saraglossa**.—*Hodgs.*

Bill rather long, straight at base, depressed and compressed at the tip; culmen ridged, curved and slightly hooked; gonys nearly straight; nostrils apert, but the frontal plumes descend over the base of the bill, which does not divide the plumes; wings pointed, the 1st three nearly equal; tail firm, short, subfurcate or nearly even; legs and feet strong and arboreal; claws acute and well curved. (*Ferd.*)

**928. *Saraglossa spiloptera*** (*Vigers*), *Ferd.*, *B. Ind.* ii. p. 336; No. 691; *Hume, Nests and Eggs Ind. B.* p. 434; *Wald. in Blyth's B. Burm.* p. 91; *Armstrong, Str. F.* iv. p. 334; *Hume and Dav., Str. F.* vi. p. 394; *Hume, Str. F.* vii. p. 106; *Oates, B. Br. Burm.* i. p. 394.—The SPOTTED-WINGED STARE OF CHESTNUT-THROATED MYNAH.

Forehead to the upper back pale plumbeous, the feathers tipped with dusky black; lower back and scapulars pale plumbeous, each feather edged or tipped with brownish; rump brown; upper tail coverts brown tinged with rufous; lores, cheeks and ear coverts black; chin and throat deep chestnut rufous; centre of abdomen, under wing coverts, axillaries and under tail coverts white; flanks and rest of under surface deep rufous; primaries, secondaries and primary coverts glossy greenish black; the primaries with a white spot at their base; wing coverts dark brown edged with grey. Bill dusky horny; legs brown; irides white; upper and lower mandible margined with pale yellow.

*Length*.—7·5 to 8 inches; wing 4·2; tail 2·5; culmen 0·75; tarsus 0·85.

*Hab*.—Western and Central Himalayas. Inhabits the valleys about Simla and Mussoorie up to 6,000 feet. In Burmah it has been observed in the Pegu Division, also on the Karin hills and at the mouth of the Rangoon river. Said to nidificate in holes of trees, lining the cavity with bits of leaves. The eggs are usually three in number, sometimes 4—5, of a delicate pale sea green, speckled with blood-like stains, sometimes tending to form a ring at the larger end. The eggs, *Hume* says, are glossless and vary in size from 1·03—1·08 × 0·60—0·74.

Gen. **Ampeliceps**.—*Blyth*.

Characters similar to *Saraglossa*. Head yellow.

**929. *Ampeliceps coronatus***, *Blyth*, *J. A. S. B.* xi. p. 194; xv. p. 32; *Hume, Nests and Eggs Ind. B.* p. 436; *Blyth, B. Burm.* p. 89; *Armstrong, Str. F.* iv. p. 335; *Hume and Dav., Str. F.* vi. p. 398; *Hume*,

*Str. F.* viii. p. 106; *Inglis, Str. F.* ix. p. 256; *Oates, Str. F.* x. p. 231; *Oates, B. Br. Burmah* i. p. 395.—The YELLOW-CROWNED MYNAH.

Entire head, chin and throat bright yellow; rest of the plumage glossy black; 2nd to 7th primaries with a yellow patch on the outer webs, and the 1st six with a white patch on the inner webs.

The young have not the yellow head. Bill pale orange; gape bluish; mouth livid; irides dark brown; orbital ring yellow, tinged with orange; legs dull orange.

*Length*.—8·5 inches; wing 5; tail 2·4; tarsus 1; bill from gape 1·1.

*Hab.*—British Burmah; Kyakpadien, China-ka-beer, Tonghoo and Tehasserim from Moulmein to Tavoy. It has also been recorded from Cachar. Mr. Davison found its nest in April near Tavoy on a low range of hills in a hole in the branch of a large dry tree 20 feet from the ground. The nest was composed, he says, of coarse dry grass, mixed with dried leaves, twigs and bits of bark.

#### Gen. *Gracupica*.—*Less.*

**930. *Gracupica nigricollis* (Payk.), *David et Oust. Ois. Chine*, p. 364; *Hume, Str. F.* ix. p. 288; *Oates, B. Br. Burmah* i. p. 377. *Gracula nigricollis*, *Payk., Act. Holm.* xxviii. t. ix. (1766).—The BLACK-NECKED MYNAH.**

Whole head white, encircled by a broad (·75 to 1·2 inch) black collar, followed by a demicollar of broadly white-margined black feathers; back, scapulars, upper rump and the longer tail coverts dark brown, edged paler; lower rump and shorter tail coverts white; tail dark brown, broadly tipped with white; under surface of the body (the black collar excepted) white; under wing coverts black, tipped with white; primary coverts white; wings and other coverts dark brown, the feathers tipped with white; very minutely on the primaries.

In the young the whole head and collar space is light brown. Nude orbital skin bright yellow. (*Oates*.)

*Length*.—11 inches; wing 6·3; tail 4; tarsus 1·6; culmen 1·1.

*Hab.*—Southern China, Siam and Cochin China, extending upwards to Upper Burmah, where it was procured at Bhamo by Dr. Anderson. It has also been procured in Tenasserim.

#### Family.—PITTIDÆ.

Bill strong, moderately long or nearly as long as the head, culmen convex slightly curved; nasal aperture basal, oblong, covered by membrane; tarsus long, seldom equal or longer than the tail. Plumage brilliant. They nidificate in open nests and lay spotted eggs.

Gen. **Anthocincla**.—*Blyth*.

Frontal plumes recumbent; tail short, one half the length of the wing.

**931. *Anthocincla Phayrii*, *Blyth*, *J. A. S. B.* xxxi. p. 343; *id.*, *B. Burm.* p. 100; *Hume, Str. F.* iii. p. 109, pl. ii., et viii. p. 94; *Hume and Dav., Str. F.* vi. p. 245; *Bingham, Str. F.* ix. pp. 177, 474; *Oates, B. Br. Burm.* i. p. 420; *Sclater, Cat. B. Br. Mus.* xiv. p. 413.—*PHAYRE'S PITTA*.**

A mesial band from the forehead passing along the centre of the crown and widening on the nape and entire hind neck black; sides of the mesial band fulvous brown, or light brown, each feather narrowly edged with black; lores, cheeks and ear coverts mixed rufescent brown and black; long supercilium reaching down the side of the neck white, bordered by a black line; upper plumage rufescent or clear brown; wing coverts brown, with black subapical cross bars and bright rufous tips; tertiaries and tail duller than the back; primaries brown, broadly tipped paler and with a broad fulvous patch at the base of each feather; secondaries brown, edged with rufescent brown; chin and centre of throat white; the sides, fulvous, margined with black; under surface of the body fulvous; breast feathers and flanks spotted with black; legs and under tail coverts pink.

The female is similar to the male, except that the mesial coronal streak is absent and the under surface more spotted. Bill dark horn; irides chestnut brown; legs and feet flesh colour. *Female*—Bill horny; irides dark brown; feet fleshy white.

*Length*.—8·4 to 8·7 inches; wing 3·95 to 4; tail 2 to 2·3; tarsus 1·25; bill from gape 1·48.

*Hab.*—Tenasserim and the Karin hills. According to Mr. Davison this species has quite the habits of a *Pitta*, feeding exclusively on the ground. Capt. Bingham found its nests in the Thoungyen valley; it was a compact little oven-shaped nest made on the ground at the foot of a tree constructed of leaves, roots and grass. The entrance was on the side looking down the steep slope on which it was built. It contained four eggs, glossy white, and spotted chiefly at the larger end with purplish black.

Gen. **Pitta**, *Vieill.*

Bill shorter than in *Anthocincla*, and less compressed, tail shorter, more or less square, tarsus nearly always shorter than it.

**932. *Pitta nipalensis*, (*Hodgs.*), *Gray, Gen. B.* i. p. 214; *Blyth, Cat. B. Br. Mus. As. Soc.* p. 156; *Wallace, Ibis*, 1864, p. 108; *Gould, B. Asia*, vi. pl. 79. *Paludicola nipalensis*, *Hodgs., J. A. S. B.*, vi. p. 103. *Brachyurus nipalensis*, *Blyth, J. A. S. B.* xvi. p. 153; *Bp. Consp.* i. p. 253; *Elliot, Ibis*, 1870, p. 413. *Hydrornis nipalensis*, *Ferd., B. Ind.* i. p. 502, No. 344; *Blyth, B. Burm.* p. 97; *Oates, Str. F.* iii. p. 337; *id., B. Br. Burm.* i. p. 412; *Hume, Str. F.* viii. p. 93.—*THE BLUE-NAPED PITTA*.**

Above dull greenish; nuchal patch blue; forecrown and sides of the head pale brown, whiter on the lores; wings blackish edged with pale brown; tail dull greenish; beneath brown, rather more buffy on the middle of the belly; throat whitish; bill blackish; feet brown. (*Sclater*.)

*Length*.—9·3 to 10 inches; wing 4·8; tail 2·7; tarsus 2·2; bill from gape 1·25.

*Hab*.—From Nepaul, through Assam and the Khasia hills to Pegu. Recorded from Sikkim, Darjeeling, Buxa and Bhootan Doars, Dubragurh, Dilkoo-sha, Munipur, Cachar, Karenne and Upper Pegu. Inhabits evergreen, damp forests, where it feeds on worms of every kind. A nest of this was found by Mr. Hume in the month of May. It was a mass of leaves placed on the ground at the foot of a bush in which were three white eggs spotted with purple.

**933. *Pitta Oatesi*.** (*Hume*), *Sclater, Cat. B. Br. Mus.* xiv. p. 416. *Hydornis Oatesi*, *Hume, Str. F.* i. p. 477, et viii. p. 93; *Wald. in Blyth, B. Burm.* p. 98; *Hume and Dav., Str. F.* vi. p. 237; *Oates, B. Br. Burm.* i. p. 411; *Salvad., Ann. Mus. Civ. Gen. Ser.* v. p. 273 (Tenasserim).—OATES'S PITTA.

Entire head, nape and mantle rich rufous; cheeks, ear coverts and the whole under surface of the body slightly paler; the middle of the belly and under tail coverts deep buff; back, rump, upper tail coverts and central tail feathers dull green, the rump and tail tinged with blue; lateral tail feathers greenish brown; wings rusty, with a tinge of green on the secondaries and tertiaries; upper wing coverts greenish rusty, some of the feathers tipped with fulvous.

The female has not the tinge of blue on the rump. Upper mandible of bill brown, the tip and edges salmon colour; lower mandible brown; inside of mouth flesh colour; irides rich brown; eyelids plumbeous; legs and claws pinkish flesh colour. (*Oates*)

*Length*.—9·5 to 10 inches; wing 4·7 to 4·8; tail 2·6; tarsus 2·1 to 2·5; bill from gape 1·4.

*Hab*.—Pegu and Tenasserim. In habits the same as the preceding.

**934. *Pitta cærulea*.** (*Raffles*), *Vig. Mem. Raffles*, p. 659; *Moore, P. Z. S.* 1854, p. 273; *Wallace, Ibis*, 1864, p. 108; *Hume et Dav., Str. F.* vi. p. 238; *Hume, Str. F.* viii. p. 94; *Gould, B. Asia*, v. pl. 81; *Sharpe, P. Z. S.* 1881, p. 798. *Brachyurus cæruleus*, *Blyth, J. A. S. B.* xvi. p. 153; *Elliot, Ibis*, 1870, p. 412. *Gigantipitta cærulea*, *Oates, B. Br. Burm.* i. p. 413. *Brachyurus Davisoni*, *Hume, Str. F.* iii. p. 321.—THE GIANT PITTA.

Upper surface of the body bright blue; front, forehead and sides of the head whitish ashy or greyish brown; crown, nape and back of neck black; a broad

supercilium produced back to nearly the end of the black on the neck fulvescent; chin and upper throat plain fulvescent; lower throat and sides of the neck the same, but each feather slightly margined with blackish; under surface of the body fulvous with a tinge of green; an irregular, half-concealed black guttural collar (not always present) formed by the black bases of the feathers there; wings black, more or less edged with blue; rump, upper wing coverts, back, tail coverts and tail bright blue. The female is similar except that the back and wing coverts are chestnut, the whole head and nape rufous grey, closely barred with black, and there is a black demicollar on the back of the neck. Bill black; eyelids and gape dark fleshy; legs and feet dark or bluish fleshy; irides hazel-grey.

*Length*.—11·4 to 12 inches; wing 6 to 6·2; tail 2·5 to 2·8; tarsus 2·4 to 2·5; bill 1·75.

*Hab.*—Tenasserim, Malay Peninsula, Sumatra and Borneo, also Siam.

**935. *Pitta cyanea*, Blyth, *J. A. S. B.* xii. p. 1008 (1843); xvi. p. 153; Gould, *B. Asia*, v., pl. 80; Wallace, *Ibis*, 1864, p. 198; Hume and Dav., *Str. F.* vi. p. 230; Hume, *Str. F.* viii. p. 93; Bingham, *Str. F.* ix. p. 473. *Brachyurus cyaneus*, Blyth, *J. A. S. B.* xvi. p. 153; *id.*, *B. Br. Burm.* p. 98; Elliot, *Monog Pitta*, pl. xiii.; *id.*, *Ibis*, 1870, p. 413; Hume, *Str. F.* iii. p. 107. *Eucichla cyanea*, Oates, *B. Br. Burm.* i. p. 419.—THE BLUE PITTA.**

Head greenish grey, changing to reddish on the crown and scarlet on the nape; a narrow vertical streak from the base of the bill, over the centre of the crown to the nape black; lores and a line through the eye to the nape black; upper surface of the body bright blue; tail blue; quills of the wing brown, their bases with a white patch; cheeks and ear coverts fulvous, below which is a moustachial stripe on each side; chin and throat whitish or buffy white mottled with black; under surface of the body light blue, barred with black shaft spots; the breast washed with yellowish; centre of abdomen, under wing coverts and under tail coverts white. The female is similar, but duller; the plumage is brown tinged with blue and the lower plumage yellowish brown barred with black. Bill black; legs pinkish flesh colour; irides dark reddish brown; eyelids plumbeous.

*Length*.—8·5 to 9 inches; wing 4·5; tail 2·3; tarsus 1·8; bill from gape 1·2.

*Hab.*—Bhootan, Burmah and Siam. It was got by Sir Arthur Phayre in Arracan, and Oates found it common on the Pegu hills in the evergreen forests on the eastern spurs between Thayetmyo and Tonghoo. Capt. Wardlaw-Ramsay got it in the Karin hills, and Mr. Davison, throughout Tenasserim as far south as Tavoy. Capt. Bingham procured it in the Thoungyeen valley. Notwithstanding this distribution, it is said to be everywhere rare. It was found breeding at Kaukarit in Tenasserim during May by Capt. Bingham. The eggs, he says, are not unlike those of other species of the genus.

**936. *Pitta cyanoptera*, Temm., *Pl. Col.* p. 218; *Wallace, Ibis*, 1864, pp. 105, 110; *Sclater, Cat. B. Br. Mus.* xiv. p. 420. *Turdus mollucensis*, *P. L. S. Mull, Nat. Syst. Suppl.* p. 144. *Pitta malaccensis*, *Blyth, J. A. S. B.* xii. p. 960. *Brachyurus cyanopterus*, *Blyth, J. A. S. B.* xvi. p. 153; *Elliot, Monog. Pitt.* pl. iv. *Brachyurus moluccensis*, *Elliot, Ibis*, 1870, p. 413; *Hume, Str. F.* iii. p. 106; *Blyth and Wald., B. Burmah*, p. 98; *Sharpe, Ibis*, 1877, p. 10. *Pitta moluccensis*, *Swinh., P. Z. S.* 1871, p. 374; *Oates, Str. F.* v. p. 149; *id., B. Br. Burm.* i. p. 415; *Hume and Davison, Str. F.* vi. p. 240; *id., Str. F.* viii. p. 94.—THE LESSER BLUE-WINGED PITTA.**

Top of the head brown, with a dark brown mesial vertical streak; nape brown, tinged with fulvous; lores and sides of the head, meeting in a band on the nape, black; back, scapulars and tertials from dull to dark green; rump, lesser wing coverts, the upper tail coverts and edges of the secondaries bright blue; chin at the base of the bill blackish; rest of chin and throat white; breast and under surface of the body deep fawn or ruddy buff, the abdomen with a mesial broad crimson stripe. Vent and under tail coverts crimson; tail black, tipped with blue; wings black, with a broad white bar across; under wing coverts black. Bill black; feet brown; irides dark brown.

*Length*.—7·5 to 8 inches; tail 1·5 to 1·6; wing 4·6 to 4·9; tarsus 1·5 to 1·7; bill from gape 1·2.

*Hab.*—Burmah, Siam, South China, the Malay Peninsula and Borneo. It occurs also in Arracan. It has been obtained in Tenasserim, Thayetmyo, Pegu, and Rangoon. According to Oates this *Pitta* is a summer visitor to Burmah, where it is abundantly distributed over the whole country from May to July. Nesting operations begin soon after their arrival. The nest, Oates says, is a huge structure composed of sticks, leaves and roots bound together with earth. It is placed on the ground either in an open place or against the root of a tree. The eggs, 4—6 in number, are white, marked with spots and scrawls of purplish.

**937. *Pitta megarhyncha*, Schl.; *Voy. Ned. Ind.* p. 11, pl. 4, fig. 2; *Hume and Dav., Str. F.* vi. p. 242; *id., Str. F.* viii. p. 94; *Oates, B. Burm.* i. p. 416; *Gould, B. Asia*, v. pl. 70; *Sclater, Cat. B. Br. Mus.* xiv. p. 421. *Brachyurus megarhynchus*, *Wald. in Bly., B. Burm.* p. 98; *Hume, Str. F.* ii. p. 475.—THE LONG-BILLED BLUE-WINGED PITTA.**

Very similar to *Pitta cyanoptera*, except that the top of the head is darker brown, and the coronal streak nearly obsolete; the bill is also longer, 1·6 inches against 1·2 from gape, and the species larger, 9 to 9·3 inches against 7·5 to 8 inches.

*Hab.*—Tenasserim and the Malay Peninsula. Said to be resident in the extreme south of Tenasserim, but there is no account of its nidification.

**938. *Pitta brachyura*.** (Linn.), *Royle, Ill. Bot. Him.* pl. 7, fig. 3; *Jerd., Madras Journ.* x. p. 25; *Kelaart, Prod. Faun. Zeyl.* p. 122; *Legge, Ibis*, 1874, p. 18; *Ball, Str. F.* vii. p. 213; *Sclater, Cat. B. Br. M.* xiv. p. 423. *Corvus brachyurus*, Linn., *Syst. Nat.* i. p. 158. *Pitta bengalensis*, Vieill., *Enc. Meth.* p. 685; *Jerd., B. Ind.* i. p. 503. *Pitta coronata*, Hume, *Nests and Eggs, Ind. B.* p. 224; *Ball, Str. F.* ii. p. 406; *id.*, v. p. 416; *Butler and Hume, Str. F.* iii. p. 470; *Fairbank, Str. F.* iv. p. 257; *Legge, B. Ceylon*, p. 687.—THE INDIAN PITTA OR GROUND THRUSH.

Upper surface of the body green; vertical stripe on top of the head black, bordered on each side with pale yellowish or buffy brown; supercilium buffy white; lores and cheeks black, also the wings, which have a broad white basal band and white tips to the feathers; rump, lesser wing coverts and upper tail coverts bright light blue; back, scapulars and greater wing coverts green; under surface of the body fawn colour, the throat white, but the middle of the abdomen and under tail coverts scarlet; under wing coverts black with a broad white patch. Bill black; culmen paler; feet yellowish.

*Length*.—7 inches; tail 1·5; wing 4.

*Hab.*—Indian Peninsula, Assam, Arracan, Tenasserim and Ceylon. Recorded localities in India are Simla, Bareilly, Behar, Assam, Kattywar, Sikkim, Mysore, Travancore, Coorg, Raipur, Mallegaum, Ahmednuggur, Khandalla, Belgaum, Calicut, Ootacamund, Madras, Malabar, the Godavery Valley and Mount Aboo. This species breeds wherever it is found from May to August. The nest is a globular structure with an aperture on one side, composed of dry leaves, twigs, and roots. The eggs are irregular ovals, glossy, china-white, speckled and spotted with maroon, dark purple and brownish purple. In size they vary from 0·96 to 1·07 inch in length and by 0·81 to 0·9 inch in breadth.

**939. *Pitta coccinea*,** *Eyton, P. Z. S.* 1839, p. 104; *Blyth, J. A. S. B.* xii. p. 961; *Hume and Dav., Str. F.* vi. p. 511; *Hume, Str. F.* viii. p. 94; *Sclater, Cat. B. Br. Mus.* xiv. p. 431; *Gould, B. Asia*, pl. 68. *Pitta granatina*, *Moore, P. Z. S.* 1854, p. 274; *Sharpe, P. Z. S.* 1887, p. 432. *Eucichla coccinea* (*Eyton*), *Oates, B. Br. Burm.* i. p. 417.—THE MALAYAN SCARLET PITTA.

Upper surface of the body purplish blue, more brilliant on the back; back of crown and nape scarlet; forehead black for about a quarter of an inch; sides of the head black; supercilium pale blue; wings brownish black, their coverts and secondaries edged with purplish blue; throat dark purplish brown; abdomen dull scarlet; tail dull black, edged with purplish. Bill black; feet brown.

*Length*.—6 to 7 inches; tail 1·5; wing 3·5; tarsus 1·5; bill from gape 1·05.

*Hab.*—Tenasserim and the Malay Peninsula. Mr. Davison obtained it at the foot of Nwalabo mountain.

**940. *Pitta cucullata*, Hartl., Rev. Zool. 1843, p. 65; *Jerd., B. Ind. i.* p. 504; *Dav., Str. F. v.* p. 457; *Hume and Dav., Str. F. vi.* p. 243; *Hume, Str. F. viii.* p. 94; *Oates, B. Br. Burm. i.* p. 414; *Sclater, Cat. B. Br. Mus. xiv.* p. 442. *Brachyurus cuculatus, Bp. Consp. i.* p. 255; *Elliot, Mon. Pitt.* pl. xxviii.; *Hume, Str. F. iii.* p. 109; *Blyth, B. Burm.* p. 98.—The GREEN-BREASTED PITTA.**

Entire head and nape rich rufous brown or chestnut; lores, cheeks, ear coverts, chin, throat and a band round the head black; breast and under surface of the body pale greenish blue to bright green, except a central black patch on the abdomen, and the crimson vent and under tail coverts; under wing coverts black; upper tail coverts as well as the lesser wing coverts ultramarine blue, the greater wing coverts dull green; primaries black, their apical portion with a broad white band; secondaries black, the terminal half of the outer webs edged with greenish blue; tertiaries dark green; tail black, tipped with blue. Bill black; irides dark brown; legs and feet fleshy pink.

*Length.*—6·5 to 7·5 inches; tail 1·6; wing 4·5; tarsus 1·7; bill from gape 1·05.

*Hab.*—British Burmah, Assam, the Malay Peninsula, Sikkim, Khasia hills and Nepaul. It has also been recorded by Blyth from Arrakan. Oates says it is generally distributed over British Burmah in suitable localities, that it is plentiful on the Pegu hills, and that Mr. Davison procured it in the Tenasserim Division at Amherst, Bankasoon and Malewoon.

#### Gen. **Eucichla**.—*Cab. et Hein.*

General characters of *Pitta*. Bill moderate but the tail longer than in that genus and more pointed.

**941. *Eucichla Gurneyi*, (Hume), Gould, Mon. Pitt. pl. 5; Oates, B. Br. Burm. i. p. 418; Sclater, Cat. B. Br. Mus. xiv. p. 448. *Pitta Gurneyi, Hume, Str. F. iii.* p. 296, pl. iii.; *id., Str. F. viii.* p. 94; *id., Davison, Str. F. vi.* p. 244.—GURNEY'S PITTA.**

Upper surface of the body light chestnut brown; front half and sides of the head, continued as a stripe over the eye and round the nape, black; breast, abdomen, vent and under tail coverts also black; occiput and nape brilliant blue, the feathers long and pointed, and forming a crest; tail black, broadly edged on the outer webs with blue; on the under surface the chin is whitish, also the throat; sides of the neck and breast bright yellow; flanks yellow, barred with black; under wing coverts black, spotted with white; wings blackish brown; upper wing coverts light chestnut brown; primaries and their coverts black; secondaries the same, the inner ones slightly edged with whitish, and the primaries with a white bar at their base. The *female* has the forehead pale brown, the crown and nape bright ferruginous and the lower plumage yellow, closely barred with black; tail blue; throat white.



Bill black ; irides dark brown ; legs fleshy white.

*Length*.—8 to 8·5 inches ; tail 2·2 ; wing 4·1 ; tarsus 1·0 ; bill from gape 1·1.

*Hab.*—Tenasserim, where Mr. Davison first discovered it. According to Oates it inhabits the evergreen forests, and appears to be, to some extent, migratory. It has also been found in the Malay Peninsula at Tonka.

**Family**,—EURYLÆMIDÆ,—*Swainson*.

Plantar vinculum retained ; manubrium not forked (*Desmodactyli*, Forbes). *Sclater*. Bill short, broad, and depressed, the culmen bluntly ridged and more or less rounded ; tip hooked ; margins of upper mandible somewhat dilated and folding over the lower one ; nostrils apert, covered by a few bristles ; wings short ; tail graduated ; tarsus short ; outer toe syndactyle.

**Sub-Family**.—CALYPTOMENINÆ.

Frontal plumes projecting forwards and covering the nostrils ; tail very short, nearly square ; bill short ; chin angle carried forward. (*Sclater*.)

**Gen. Calyptomena**.—*Raffles*.

**942. Calyptomena viridis**, *Raffles, Trans. Linn. Socy.* xiii. p. 295 ; *Blyth, B. Burm.* p. 124 ; *Wald., Ibis*, 1872, p. 369 ; *Salvad., Ucc. Born.* p. 106 ; *Hume, Str. F.* ii. p. 470 ; *id., Str. F.* viii. pp. 50, 86 ; *Hume and Dav., Str. F.* vi. pp. 86, 499 ; *Oates, B. Br. Burm.* i. p. 422 ; *Sclater, Cat. B. Br. Mus.* xiv. p. 456.—THE GREEN BROAD-BILL.

Whole plumage bright shining green, paler on the abdomen ; a small yellow spot in front of the eye ; a black band in front across the forehead concealed by the frontal plumes, and a black spot behind the ear coverts ; wings dark brown ; wing coverts bright shining green, with three cross bands of black ; under wing coverts black.

The female is green but less brilliant than the male ; the spot in front of the eye is yellowish green, and the black spots and bars are absent. Bill yellowish ; legs horny green ; irides dark brown.

*Length*.—6 to 7·5 inches ; tail 1·5 to 2·1 ; wing 4·2 ; tarsus 0·8 ; bill from gape 1·1.

*Hab.*—Tenasserim, Malay Peninsula, Sumatra, and Borneo. According to Mr. Davison it is a forest bird, but prefers thin tree-jungle and the tops of trees. Found singly or in pairs, or in small parties. Food fruits.

**Gen. Psarisomus**.—*Swains*.

Nostrils more or less rounded, concealed by the small frontal plumes ; tail long and much graduated, and longer than the wing. (*Sclater*.) Bill moderate, broad, deep, triangular as seen from above ; culmen curved, ridge blunt, hooked and notched at the tip.

**943. *Psarisomus dalhousiæ* (Jameson), *Ferd., B. Ind.* i. p. 236, No. 138; *Blyth, B. Burm.* p. 126; *Wald., Ibis*, 1875, p. 460; *Hume, Str. F.* ii. p. 470; *Hume and Dav., Str. F.* vi. p. 88; *Bingham, Str. F.* viii. p. 193; *id., Str. F.* ix. p. 156; *Oates, Str. F.* x. p. 188; *id., B. Br. Burm.* i. p. 423; *Gould, B. Asia* i. pl. 64; *Sharpe, Ibis*, 1887, p. 453; *Sclater, Cat. B. Br. Mus.* xiv. p. 458. *Psarisomus assimilis*, *Hume, Str. F.* iii. p. 53.—The LONG-TAILED BROAD-BILL.**

Top and sides of the head black; a large patch on the crown and a line on the back of the nape bright blue; a line at the base of the bill, lores, cheeks, chin, throat, and sides of the neck meeting the blue nuchal band bright yellow; a spot above the ear coverts yellow; upper plumage, including the wing coverts, tertiaries and outer webs of the secondaries green; the inner webs of the latter and primaries dark brown; first eight primaries with a white bar on the inner webs, and a large patch of bright blue on the basal portion of their outer webs; tail graduated; blue above, and black beneath; under surface of the body bright bluish green; bill horn colour in the dry skin; the culmen and edge yellowish. In the fresh skin the bill is green, the anterior half of the culmen bluish, the middle of the lower mandible dusky orange, also a patch of the same on the edge of the upper mandible. (*Oates.*) Irides brown; legs dull greenish.

*Length.*—10.5 inches; tail 5; wing 4.1; tarsus 1.1; bill from gape 1.3.

*Hab.*—Eastern Himalayas and through Assam and Cachar down to Tenasserim, Sumatra and Borneo. Recorded from Mussoorie, Naini Tal, Gurhwal, Sikkim, Darjeeling, Nepal, Bhootan and Assam; also the Karen hills, Cachar, Tonghoo, Pegu, Rangoon and various parts of Tenasserim. According to Capt. Bingham it is common in the Thoungyeen Valley. Unlike the preceding species, this bird lives on insects and inhabits the thickest forests, going about singly or in pairs. It breeds in Tenasserim during April. The nest, according to Capt. Bingham, is suspended from the branch of a very thorny tree. Nothing is known of its eggs.

#### Gen. *Serilophus*.—*Swains.*

General characters as in *Psarisomus*, tail much rounded, shorter than the wing. Bill narrow and short; sides of upper mandible not overlapping. Plumage smooth and silky; 1st four primaries with slender pointed tips, and the secondaries emarginate; 3rd and 4th quills longest and equal; tarsus moderate; toes slender.

**944. *Serilophus lunatus* (Gould), *Swainson, Classif. B.* ii. p. 262; *id., Flycatchers*, p. 242; *Bp. Consp.* i. p. 169; *Blyth, B. Burm.* p. 125; *Hume, Str. F.* ii. p. 470; *id.*, iii. pp. 470, 73; *Davison, Str. F.* v. p. 455; *Hume and Dav., Str. F.* vi. pp. 89, 499; *Oates, Str. F.* viii. p. 164; x. p. 188; *id., B. Br. Burm.* i. p. 424; *Gould, B. Asia* i. pl. 62; *Bingham, Str. F.* ix.**

p. 157; *Sclater, Cat. B. Br. Mus.* xiv. p. 460. *Eurylaimus lunatus, Gould, P. Z. S.* 1833.—GOULD'S BROAD-BILL.

Head, nape, lores and ear coverts grey, purer on the forehead; supercilium black; under surface of the body greyish white; rump and upper tail coverts brownish chestnut; tertiaries the same; tail black, three outer pairs of feathers broadly tipped with white; the next pair either entirely black or tipped with a small spot of white; primaries and secondaries black; the 3rd and 4th broadly tipped with white, and the basal half of the outer webs of all blue; inner webs with a large white spot; outer secondaries and tips of some of the wing feathers chestnut; thighs black; bill plumbeous; culmen and edges yellowish; feet blackish.

*Length*.—7 inches; tail 2·8; wing 3·4; tarsus 0·8; bill from gape ·92.

The female has 3—4 silvery white bands across the breast.

*Hab.*—British Burmah. Occurs in small flocks, is strictly arboreal and restricted to dense forests or well-wooded localities. Oates says he found its nest in May near Pegu. It was a spherical structure, suspended from the branch of a tree not far from the ground, and was composed of coarse grass, vegetable fibres, &c. The entrance was at the side, and protected by a rude porch. The exterior of the nest, Oates adds, was adorned with cocoons, excreta of caterpillars and pieces of bark. Eggs 4 in number, white, marked with purple and rusty brown.

**945. *Serilophus rubropygius* (Hodgs.), *Bp. Consp.* i. p. 169; *Jerd., B. Ind.* i. p. 238; *Blyth, Cat. B. Burmah* p. 125; *Hume, Str. F.* vii. p. 53; viii. p. 86; ix. p. 247; *Oates, B. Br. Burm.* i. p. 425; *Gould, B. Asia*, pl. 93; *Sclater, Cat. B. Br. Mus.* xiv. p. 461. *Raya rubropygia, Hodgs., J. A. S. B.* viii. p. 36. *Eurylaimus (Serilophus) rubropygius, Horsf. et Moore, Cat. B. E. I. Co. Mus.* i. p. 119.—HODGSON'S BROAD-BILL.**

Upper surface dark iron grey; supercilium black; rump and upper tail coverts chestnut red; wings black, crossed by a bluish band above the coverts, and by another occupying the tips of the outer webs, also by a white band beneath, across the inner webs; outer secondaries and tips of the inner webs of the inner primaries chestnut like the back; a row of small white spots adjacent to the second bluish band; tail black; outer rectrices broadly tipped with white, beneath grey, more whitish on the belly. Bill plumbeous with yellowish tip and edges; feet pale greenish brown. (*Sclater.*)

*Length*.—7 to 7·25 inches; tail 3; wing 3·5; bill at front 0·55; tarsus 0·9. (*Oates.*)

*Hab.*—Hill tracts of Bengal to the Eastern portion of the Himalayas, and as far as Nepaul. Recorded from Sikkim, Darjeeling, Bhootan, Assam, Munipur, and Khasia Hills.

Gen. **Eurylæmus**, *Horsf.*

Nostrils concealed by the frontal plumes; bill longer than in *Serilophus*, strong and much widened, the sides of the upper mandible overlapping; eye without caruncle.

**946. *Eurylæmus javanicus*, Horsf., *Trans. Linn. Soc.* xiii. p. 170; Blyth, *B. Burm.* p. 125; *Bp. Consp.* i. p. 168; *Walden, Ibis*, 1872, p. 369; *Gould, B. Asia* i. pl. 57; *Salvad. Ucc. Born.* p. 107; *Dav., Str. F.* v. p. 456 (nest); *Hume and Dav., Str. F.* vi. pp. 89, 499; *Hume, Str. F.* ii. p. 470; *id.*, viii. pp. 56, 86; *Bingham, Str. F.* ix. p. 157; *Oates, B. Br. Burm.* i. p. 427; *Sclater, Cat. B. Br. Mus.* xiv. p. 463. *Eurylaimus horsfieldi*, *Temm. Pl. Col.* 130, 131.—HORSFIELD'S BROAD-BILL.**

Whole head, neck and lower plumage vinaceous purple, darker and blackish on the forehead, chin and throat; lighter and purer on the lower parts; above black; a broad central patch in the middle of the back, large spot on the scapulars and upper tail coverts and bar on the outer webs of the secondaries bright yellow; tail black, each feather with a subterminal fulvous white spot; feathers of the flanks and under tail coverts tipped with yellowish; across the breast a narrow black collar immediately below which the feathers are greenish brown; edge of the wing and under wing coverts bright yellow; thighs blackish; under tail coverts rufous.

In the female the narrow pectoral band is absent. Young birds have the wing coverts tipped with yellow and the lower plumage is dashed with yellow and orange. Bill dark plumbeous; culmen yellowish; feet pale hazel. (Dry skin.) In the freshly-killed bird the upper mandible is bright blue to within one-third of the tip, the rest is pale sea green; lower mandible pale greenish blue, both mandibles edged and tipped with brownish red; legs and feet fleshy. (*Davison*.)

*Length*.—8·3 to 9 inches; tail 2·7 to 2·9; wing 4 to 4·3; tarsus 1·1; bill from gape 1·6.

*Hab.*—Tenasserim and throughout the Malay Peninsula to Sumatra, Java and Borneo. It has been found breeding at Bankasoon in March by Mr. Davison. The nest, he says, was a massive structure composed of moss, leaves and twigs, and suspended from the tip of a tall bamboo overhanging a stream. It contained two white eggs, speckled with rusty brown.

**947. *Eurylæmus ochromelas*, *Raffles, Trans. Linn. Soc.* xiii. p. 297; *Blyth, B. Burm.* p. 125; *Bp. Consp.* i. p. 168; *Gould, B. Asia*, i. pl. 58; *Wald., Ibis*, 1872, p. 370; *Hume and Dav., Str. F.* vi. p. 91; *Hume, Str. F.* ii. p. 470; *id.*, viii. pp. 50, 86; *Oates, B. Burm.* i. p. 426; *Sclater, Cat. B. Burm. Mus.* xiv. p. 465. *Eurylæmus cucullatus*, *Temm., Pl. Col.* 261. *Cymbirhynchus cucullatus*, *Eyton, P. Z. S.* i. 339, p. 101.—THE BLACK AND YELLOW BROAD-BILL.**

Head, neck, upper back and pectoral band black; lower throat up to the pectoral band white, forming a collar round the back of the neck; a mesial band down the back, and the rump and upper tail coverts bright yellow; vent, sides of the body and under tail coverts also bright yellow; back yellow, each feather margined with black; spots on scapulars, and outer webs of secondaries yellow; primaries black, a small portion of the outer webs near the base yellowish white; lesser wing coverts mixed yellow and black, the greater series black; under wing coverts and flanks yellow; thighs black; tail black, each feather with a subterminal yellowish white spot on the inner webs; breast and abdomen pale claret colour. (Dry skin.) Bill plumbeous, with yellowish culmen and edges; feet reddish; irides bright yellow.

*Length*.—6·5 inches; tail 2·3; wing 3·2; tarsus 0·8; bill from gape 1·1.

*Hab.*—Tenasserim and the Malay Peninsula to Sumatra and Borneo. According to Mr. Davison it is uncommon in Tenasserim. In habits, he says it resembles the other Broad-bills, and like the rest is chiefly insectivorous. He often shot the birds while catching insects on the wing.

#### Gen. **Corydon** —Lesson.

Bill nearly as wide as long, and strongly hooked. Colouration dull. One species only.

**948. *Corydon sumatranus*** (*Raffles*), *Strickl., Ann. Nat. Hist.* vi. p. 417; *Blyth, B. Burm.* p. 125; *Bp. Consp.* i. p. 168; *Hume and Dav., Str. F.* vi. p. 97; *Gould, B. Asia* i. pl. 61; *Walden, Ibis*, 1872, p. 369; *Oates, B. Br. Burmah*, i. p. 430; *Sclater, Cat. B. Br. Mus.* xiv. p. 467. *Coracias sumatranus*, *Raffles, Trans. Linn. Soc.* xiii. p. 303. *Eurylæmus sumatranus*; *Horsf. et Moore, Cat. B. Mus. E. I. Co.* i. p. 117.—THE DUSKY BROAD-BILL.

Whole plumage dull black; upper breast and throat light brownish white; middle of back with a large concealed patch of white tinged with crimson; alar speculum white; tail black, with a broad white subterminal band on all the lateral rectrices.

The young bird is sooty black throughout, and has not the patch of white on the back; the upper breast and throat are duller brown. Bill plumbeous above, yellowish beneath; feet black.

*Length*.—10 to 10·5 inches; tail 4·2; wing 5·4; tarsus 1·1; bill from gape 1·6.

*Hab.*—Tennaserim, Malay Peninsula, Sumatra and Borneo.

#### Gen. **Cymborhynchus**.—Vigors.

Bill not as wide as in *Corydon*; nostrils in a longitudinal sulcus in the centre of the mandible.

**949. *Cymborhynchus macrorhynchus*** (*Gm.*), *G. R. Gray, Gen. B.* i. p. 66; *Blyth, B. Burm.*, p. 126; *Walden, Ibis*, 1872, p. 270;

*Hume, Str. F.* ii. p. 470; viii. pp. 50-86; *Davison, Str. F.* v. p. 457; *Hume and Dav., Str. F.* vi. p. 92; *Oates, B. Brit. Burm.* i. p. 428; *Cat. B. Br. Mus.* xiv. p. 468. *Cymborhynchus malaccensis*, *Salvad, Atti. R. Ac. Sc. Tor.* ix. p. 425; *Blyth and Wald., B. Burm.* p. 126; *Dav., Str. F.* v. p. 457; *Hume and Dav., Str. F.* vi. p. 92; *Hume, Str. F.* viii. p. 86. *Todus macrorhynchus*, *Gm., Syst. Nat.* i. p. 446. *Cymborhynchus affinis*, *Blyth, J. A. S. B.* vi. p. 312; *Oates, B. Br. Burm.* i. p. 429 —The BLACK AND RED BROAD-BILL.

Head, cheeks, lores, neck, chin, upper throat, a broad pectoral band, back, and wing coverts black; long scapulars white on the outer webs; rump and upper tail coverts, also the ear coverts and space above the pectoral band and throat, as well as the whole under surface of the body crimson, dashed on the abdomen with golden yellow; under wing coverts blackish; tail black, with a white subterminal spot on the inner and sometimes both webs of all but the central pair of feathers; axillaries yellowish; edge of wing bright golden yellow; bill dark plumbeous; tip and edges greenish; legs and feet light plumbeous (dry skin). In the freshly killed bird, the upper mandible and a line bordering the edge of the lower mandible brilliant blue; remainder of the latter yellowish; edges of both transparent white; irides emerald green, shot with gold; legs and feet ultramarine blue; claws horny. (*Bingham, ex Oates, B. B.*)

*Length.*—10 to 11 inches; tail 4·2; wing 5·4; tarsus 1·1; bill from gape 1·6.

*Hab.*—Tenasserim, Malay Peninsula, Sumatra and Borneo.

It will be seen that *C. affinis* of Blyth, has not been allowed to stand as a species. Mr. Sclater says: "It is hardly more than a sub-species," and all *sub-species are bad*. It must be one or the other; *affinis* in my opinion is simply an adolescent form nearly merging into the adult. This I say from the series I possess of both from nearly all the localities quoted in the Br. Mus. Cat. The habits of both are similar, and except the distinctive character given to *affinis* by Mr. Oates, there is nothing which would permit a specific separation, and these characters are seen merging from the young into the adolescent and adults.

## ORDER—MACROCHIRES.

Gape wide; bill short, broad at base; keel curved to the tip; tail generally forked.

## Family—CYPSELIDÆ.

Bill short, broad at base, depressed, compressed at tip; gape wide; wings long and pointed; tarsi short.

**Sub-Family**—CYPSELINÆ.—SWIFTS.

Wings very long and curved, scimitar-like; toes short, hinder ones generally directed forwards; claws curved and sharp; tail short, of 10 feathers only; rictal bristles absent; keel of sternum large; posteriorly entire.

**Gen. Cypselus.**—*Illiger.*

Bill with the sides gradually compressed to the tip; nostrils partially feathered; second quill longest; tail generally forked; tarsi short, plumed to the toes; toes all directed forward.

**950. Cypselus melba** (*Linn.*), *Edw.*, *B.* pl. 27; *Naum. vogt.* 147, i.; *Gould, B. Eur.* pl. 53, 2; *Ferd., B. Ind.* p. 175, No. 98; *Murray, Hdbk. Zool., &c., Sind.* p. 124; *id., Vert. Zool., Sind.* p. 105.—The ALPINE SWIFT.

Above wood-brown; glossy purple on the back; wings darker brown; under surface white, except a broad dusky bar across the breast; rump, on the sides, under tail coverts and tarsal plumes brown; bill black; irides deep brown; toes brown with an orange tinge.

*Length.*—8 to 9 inches, wing 8·5 to 8·75, 2·5 inches beyond the tip of the tail, which is forked, and 3 inches in length; outer feathers 3·75.

*Hab.*—S.-W. Europe, Palestine, W. Asia, Africa, Greece, Beloochistan, Afghanistan, Persia. In India it occurs as a migrant, passing through the Punjab, N.-W. Provinces, Sind, Kutch, Kattiawar, Guzerat, and the Deccan during winter. Jerdon says it is not rare in South India all along the Western Ghats from Honore to Cape Comorin, extending its daily flight often to the Western Coast, and occasionally eastwards to Salem, Madura, and even Madras; abundant on the Neilgheries and on the Malabar Coast.

**951. Cypselus apus** (*Lin.*), *Pl. Enl.* 542, 1; *Naum. vogt.* t. 147, 2; *Gould, B. Eur.* pl. 53, 1; *Ferd., B. Ind.* i. p. 177, No. 99; *Hume, Str. F.* i. p. 65; *Murray, Hdbk., Zool., &c., Sind.* p. 125; *id., Vert. Zool. Sind.* p. 105.—The EUROPEAN SWIFT.

The whole of the plumage dark sooty-black, except a greyish white patch on the chin and throat. Bill, legs, toes and claws black; irides brown; second primary longest in the wing, which reaches more than an inch beyond the tip of the tail; tail more forked than in the last.

*Length.*—7 inches; wing 6·25; tail 2·75.

*Hab.*—Europe, N. and E. Africa, W. Asia. Occurs in Persia, Beloochistan and Afghanistan; also in Sind, the Punjab, N.-W. Provinces, Kutch, Kattiawar and Jodhpore as a migrant.

**952. Cypselus affinis**, *Gray, Ill. Ind. Zool.* pl. 35, 2; *Ferd., B. Ind.*, i. p. 177, No. 100; *Str. F.* i. p. 166; *Murray, Zool., &c., Sind.* p. 125; *id., Vert. Zool. Sind.* p. 105.—The COMMON INDIAN SWIFT.

Upper surface brown-black, darker, and glossed greenish on the back; head brownish, forehead paler; under surface brownish black; chin, throat and rump white. Bill black; feet brownish; irides deep brown.

*Length*.—5·5 to 6 inches; wing 5, extends 1·5 beyond tip of tail, which is 1·75.

*Hab*.—Beloochistan, Persia, Afghanistan, Nepaul and Abyssinia. In India very generally distributed. Occurs in Sind, the Punjab, Deccan, Concan, Kutch, Kattiawar, Jodhpore and N. Guzerat. Wherever it is found, it breeds in large colonies under the eaves of roofs and in untenanted buildings. Eggs 2—4 in number, pure white.

**953. *Cypselus acuticaudus*, Blyth, J. A. S. B. xviii. p. 605; Hume, Str. F. ii. p. 156.**—The PINTAILED SWIFT.

Very similar to *Cypselus apus*, but has no white rump; lower parts banded with white.

*Length*.—6·4 to 7 inches; wing 7·3; tail 3·2.

*Hab*.—N.-W. Himalayas.

**954. *Cypselus pacificus* (Lath.), Sclater, P. Z. S. 1865, p. 599, Salvad., Ucc. Borneo, p. 119; Blyth, B. Burm. p. 84; Hume, Str. F. iii. p. 43; David et Oust. Ois. Chine, p. 69; Hume and Dav., Str. F. vi. p. 48; Hume, Str. F. viii. p. 84; Inglis, Str. F. ix. p. 246; Oates, B. Br. Burm. ii. p. 1.**—The WHITE-RUMPED BARRED SWIFT.

Whole upper plumage from dark brown to blackish, each feather narrowly edged with whitey brown; a blackish spot in front of the eye; rump white, the feathers brown-shafted; chin and throat white, the feathers also dark shafted; sides of the neck and under surface of the body, including the under wing coverts, brown, the feathers subterminally darker brown, and fringed with white. Bill black; irides brown; feet pinkish.

*Length*.—7·25 inches; tail 3·3; wing 7·3; tarsus 0·45; bill from gape 0·8.

*Hab*.—From Siberia and Japan to Australia; its southern limit is Cachar and Tipperah. According to Oates, it is found at various localities in the Pegu Division, also in the southern half of Tenasserim and over the whole of British Burmah, flying at vast heights in large flocks. They breed in Southern China.

**955. *Cypselus subfuroatus*, Blyth, J. A. S. B. xviii. p. 807; Swinhoe, Ibis, 1863, p. 254; Sclater, P. Z. S. 1865, p. 602; Salvad., Ucc. Borneo p. 118; Hume, Str. F. ii. p. 524; David et. Oust. Ois. Chine, p. 69; Hume and Dav., Str. F. vi. p. 47; Hume, Str. F. viii. p. 84; Kelham, Ibis, 1881, p. 373. *Cypselus leucopygialis*, Cass., Proc. Ac. Phil. v. p. 58.**—The WHITE-RUMPED BLACK SWIFT.



Whole plumage dark blackish brown, except the head, back and abdomen which is glossy black, and the rump white; chin, throat and foreneck dull white, with brown shafts. Bill black; irides dark brown; legs brownish fleshy.

*Length*.—5·7 inches; tail 2·2; wing 5·3 to 5·5; tarsus 0·4; bill from gape 0·8.

*Hab.*—Southern China, Cochin-China, Sumatra, Java and Borneo. Recorded from throughout British Burmah and the Indo-Burmese countries, also Chand a in North India and the Khasia hills. It was observed by Mr. Davison in the south of Tenasserim, and by Oates between Pegu and Rangoon.

**956. *Cypselus leuconyx***, *Blyth*, *J. A. S. B.* xiv. p. 218; *id.*, *Cat. B. Mus. As. Soc. Beng.* 424; *Jerd.*, *2nd Suppl. Birds Cal.* 255 bis; *id.*, *Birds of India* i. p. 179; *Hume*, *Str. F.* iii. p. 44.—The WHITE CLAWED SWIFT.

Upper surface glossy blackish brown, darker on the head; rump white, chin and throat dirty white; rest of under surface glossy brown, the feathers fringed with whitish; in some specimens a slight pale supercilium. Bill black; claws white, but not so in all specimens.

*Length*.—6·25 inches; tail 2·5; wing 6·25; tarsus 0·37.

*Hab.*—N.-W. Himalayas, the Deccan and Malabar.

Dr. Stoliczka says it occupies in summer the ranges of hills between the outer ranges where *C. affinis* is abundant, and the higher and more interior hills occupied by *C. apus*.

**957. *Cypselus batassiensis*** (*Gray*). *C. palmarum*, *Gray and Hardw.*, *Ill Ind. Zool.* i. p. 35, fig. i.; *Jerd.*, *B. Ind.* i. p. 180, No. 102.—The PALM SWIFT.

Entire plumage glossy ashy brown or fuscous, darker on the wings and tail, and more albescent on the under surface. Bill black; irides brown; feet dusky reddish; tail much forked, the inner feathers of the fork 1·25 inch shorter than the outer; primaries dark brown, the 1st shorter than the second, and much pointed at the tip.

*Length*.—5 to 5·5 inches; tail 2·5 (outer feathers); wing 4·5.

*Hab.*—Throughout India in the more moist regions as the Malabar Coast, Carnatic, the Northern Concan, Bengal, the central tableland and the North-West Provinces; in fact, wherever palms grow. Extends to Assam, (Burmah? *Jerdon*), and Ceylon. Hume says they nest solely on the "Tar" (or toddy tree?), which he calls *Borassus flabelliformis*, on the under surface of which it builds its nests. The eggs are long ovals, slightly compressed towards one end and pure white.

**958. *Cypselus infumatus***, *Sclater*, *P. Z. S.* 1865, p. 602; *Jerd.*, *Ibis*, 1871, p. 355, pl. x.; *Hume*, *Nests and Eggs* i. p. 88; *Salvad.*, *Ucc.*

*Borneo* p. 119; *Hume, Str. F.* iii. p. 44; *Wald. in Blyth's B. Burm.* p. 85; *David et Oust. Ois. Chine*, p. 70; *Hume and Dav., Str. F.* vi. p. 48; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* viii. p. 192; *id., Str. F.* ix. p. 149. *Cypselus tectorum*, *Ferd., Proc. As. Soc. Beng.* 1870, p. 61; *Godwin-Austen, J. A. S. B.* xxxix. pt. ii. p. 94. *Cypselus tinus*, *Swinhoe, Ibis*, 1870, p. 90.—THE EASTERN PALM SWIFT.

Upper plumage nearly black or very dark brown, the rump and upper tail coverts paler; sides of the head and neck and the whole under surface of the body smoky brown. Bill and feet black; eyelids plumbeous; irides brown.

*Length*.—5 to 5·5 inches; tail 2·2 to 2·4; wing 5·6; tarsus 0·3; bill from gape 0·55; fork of tail about 0·9.

*Hab.*—British Burmah, Assam, the hill tracts of Eastern Bengal, extending to the Malay Peninsula, Borneo and China. Oates says it is abundant throughout Burmah, being found in small flocks flying at no great height from the ground, and that it is a constant resident. Capt. Bingham and Mr. Theobald found their nests in Tenasserim and Pegu. They breed from March to May in the Garro and North Cachar Hills, and from April to July in Pegu and Tenasserim, attaching their nests to the palm leaves used by the people to roof their huts. The nests, according to Hume, are tiny little shallow saucers, some 2 inches in diameter; composed of fluffy vegetable down, and a few feathers agglutinated with saliva. The eggs, generally 2—3 in number, are pure white.

### Sub-Family.—CHÆTURINÆ.

Characters same as those of *Cypselinae*; tail feathers ending in a spinous tip; the species comprised in it are mostly of large size, and pale colours.

### Gen. *Hirundinapus*, *Hodgs.*

Toes three in front; hind toe or hallux shorter than the front toes, opposable and reversible to the front; tarsus naked; tail short, even or wedge-shaped; the naked shafts of the feathers ending in a spinous tip.

**959. *Hirundinapus giganteus*** (*Van Hass.*), *Salvad, Ucc. Born.* p. 124 (*partim*); *Oates, B. Br. Burm.* ii. p. 5. *Cypselus giganteus*, *Temm. pl. Col.* 364. *Chætura gigantea*, *Sclater, P. Z. S.* 1865, p. 608 (*partim*); *Hume and Dav., Str. F.* vi. p. 46; *Hume, Str. F.* viii. p. 84.—THE GIANT SPINE-TAIL.

Top and sides of the head and neck, upper tail coverts, wings and tail black, or very dark brown; lores very deep black; back, scapulars, and rump pale brown, more or less glossy; under surface of the body smoky brown; the under tail coverts white with black shafts. Bill black; irides dark brown; feet pale brown.

*Length*.—9 inches; tail 3; wing 8 to 8·2; tarsus 0·7; bill from gape 1·1

*Hab.*—The Malay Peninsula, Sumatra, Java and British Burmah. In the

latter country a straggler. Mr. Davison obtained a specimen in the extreme South of Tenasserim at Malewoon.

**960. *Hirundinapus indicus*, Hume, Str. F. i. p. 471; id., Str. F. ii. p. 155; iv. p. 286; Inglis, Str. F. v. p. 17; Oates, B. Br. Burm., i. p. 5. *Acanthylis gigantea* (Temm.), apud Jerd., B. Ind. i. p. 172; Blyth and Wald., B. Burm. p. 84; Wardlaw-Ramsay, Ibis, 1877, p. 459. *Chætura gigantea*, apud Legge, Birds Ceylon, p. 314.—The INDIAN GIANT SPINE-TAIL.**

Not unlike *H. giganteus*, but differs in having the chin and throat whitey brown; a white spot between the eye and base of the bill, and the back and rump much paler brown. Bill black; irides dark brown; legs and feet pale purplish or plumbeous.

*Length*.—9 to 9·25 inches; tail 2·8; wing 7·8 to 8; tarsus 0·75; bill from gape 1·1.

*Hab.*—Southern India, Ceylon, Andamans, Tenasserim and the Malay Peninsula. It has been obtained in Malabar and the Wynaad, also the coast at Tellicherry. They occur in large flocks, wherever they are located, and in the early morning and the dusk of the evening are seen in scattered flocks, crossing and recrossing one another, while the setting sun now and again show their glossy plumage. It is said they build upon rocks jutting out in the sea or on rocks in the sea.

**961. *Hirundinapus leucopygialis*, Blyth, J. A. S. B. xviii. p. 809. *Cypselus coracinus*, Mull., Schleg. Handl. Dierk. i. pp. 221—479; Vogel's pl. ii. fig. 14. *Chætura coracina*, Sclater, P. Z. S. 1865, p. 614; Salvad., Ucc. Born. p. 124; Hume and Dav., Str. F. vi. p. 45. *Chætura leucopygialis*, Hume, Str. F. vii. p. 518; viii. p. 84. *Rhaphidura leucopygialis*, Oates, B. Br. Burm. ii. p. 6.—The SMALL BLACK, OR WHITE RUMPED SPINE-TAIL.**

Glossy black throughout, except the rump and upper tail coverts, which are greyish white with black shafts; tail coverts reach to nearly the tip of the tail. Bill black; irides brown; legs livid purple.

*Length*.—4·7 to 5 inches; tail 1·7; wing 4·8 to 5; tarsus 0·35; bill from gape 0·6.

*Hab.*—The Malay Peninsula, Sumatra, Borneo and Tenasserim (South). A forest loving species, frequenting banks and streams in the vicinity of forests. Davison says in habits "they much resemble the Giant Spine-tail, shooting down with the rapidity of lightning with a shrill scream, just touching the surface of the water and rising again with equal rapidity, turning and swooping down again, up stream and down stream for the hour together."

**962. *Hirundinapus sylvatica*, Tickell, J. A. S. B. xv., p. 284; Jerd., B. Ind. i. p. 170; Hume, Str. F. vii. p. 202.—The WHITE-RUMPED SPINE-TAIL.**

Upper plumage glossy black with greenish reflections; rump\* and upper tail coverts white, the outermost of the latter tipped with black; abdomen and the under tail coverts which reach to nearly the tip of the tail white; throat, cheeks and breast pale grey; flanks and sides of the body blackish. Bill black; irides dark brown; legs and feet livid.

*Length*.—4.25 to 4.5 inches; wing 5; tail 1.5; bill from gape 1.

*Hab.*—N.-W., Central and South India. Jerdon records it from Chyebassa, Darjeeling, Chanda, the Godavery, Coonoor, Neilgherries and Gurhwal.

**963. *Hirundinapus caudacuta* (Lath.), *Jerd. B. Ind.* i. p. 173. *Chaetura nudipes*, *Hodgs., J. A. S. B.* v. p. 779. *Chaetura leucotus*, *Deless., Guer. Mag. Zool.* pl. 20; *Gould, B. Australia* ii. pl. 10.—The WHITE-NECKED SPINE-TAIL.**

Head, back of neck, upper tail coverts, sides of the rump, wings and tail dusky black; lower neck, breast, and abdomen sooty brown; back, scapulars, chin, throat, neck in front and on the sides, vent, under tail coverts, a stripe along the thighs and inner webs of the last tertiaries white; stripe on the thigh mixed with black. Bill black; irides deep brown; legs and feet purplish livid.

*Length*.—8.5 inches; wing 8; tail 2.

*Hab.*—S.-E. Himalayas, Nepaul, Sikkim and Bhootan. Jerdon says he frequently saw them near Darjeeling, often in the station itself, at Kurseong and other places in Sikkim, scattered in vast numbers over a considerable tract of country, and flying with amazing rapidity. Quoting Tickell, who also observed it,—he says “it is at once recognized by its great size, and the prodigious swiftness of its movements. It breeds among the huge wall-like crags of the Himalayas and under the snow level.

**Gen. *Collocalia*, Gray.—EDIBLE-NEST-BUILDING SWALLOWS.**

General characters as in *Cypselus*; hind toe pointing backwards; 2nd quill longest; tail moderate, even, or slightly forked; bill very small, much hooked; feet small. (*Jerd.*)

**964. *Collocalia unicolor*, *Jerd., B. Ind.* i. p. 182; *Hume, Str. F.* i. p. 296; ii. p. 493; iv., p. 375; vi. p. 50. *Collocalia nidifica* (Lath.), *Jerd. B. Ind.* i. p. 182. *Hirundo brevirostris*, *McLelland P. Z. S.* 1839. *Collocalia concolor*, *Blyth, J. A. S. B.* xi. p. 886.—The INDIAN EDIBLE-NEST SWIFTLET.**

Glossy cinereous brown throughout, darker on the head, wings and tail; under surface paler. Bill dark brown; irides brown.

*Length*.—4.75 to 5 inches; wing 4.5 to 4.75; tail 2.25 to 2.3. Wings reach from 1 to 1.2 inch beyond the tail.

*Hab.*—Java, and the Islands of the Eastern Archipelago. Recorded from Assam, and Sikkim, also from the Himalayas, Neilgherries, and Ceylon. It

has been found breeding on the Malabar Coast, about Honore and Vingorla; and is said to occur throughout the Western ghauts, chiefly in the more elevated regions, as Coorg, Wynaad and Mysore.

The nest is never entirely composed of saliva, but always consists of a long grey thread-like lichen firmly agglutinated together with saliva. It is a small shallow, semi-saucer-like structure, glued to the rocks. Eggs 2 in number, glossless white. The birds breed in April, May and June.

**965. *Collocalia innominata*.** *Hume, Str. F.* i. p. 294; *id.*, *Str. F.* ii. p. 160; *Hume and Dav.*, *Str. F.* vi. p. 49; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burmah*, ii. p. 7. *Collocalia linchi*, *Horsf. apud. Bl. B. Burm.* p. 85. *Collocalia maxima*, *Hume, Str. F.* iv. p. 223.—HUME'S SWIFTLET.

*Adult*.—Forehead, crown, occiput and nape smoky black; a black line surrounding the eye; a white spot in front of the eye; cheeks, ear coverts, throat, abdomen, vent and under tail coverts dusky grey brown, the feathers of the under surface dark shafted; wing lining and axillaries dark brown; back and upper tail coverts smoky black; rump pale brown or greyish white; wings and tail like the back; the latter glossed bluish at the tips. Bill and legs black; the legs feathered to the toes.

*Length*.—5 to 5·5 inches; tail 2 to 2·3; wing 5·2 to 5·5; tarsus 0·4 to 5; bill from gape 0·6.

*Hab*.—British Burmah and the Andaman Islands. Mr. Davison met with it in Tenasserim. According to him "it hawks about along the coast, up estuaries, along the course of creeks and rivers, over paddy-fields, and sometimes a little way inland. During the day they usually keep high up and out of shot, but descend lower in the evening." Nothing is known of their nidification.

**966. *Collocalia spodiopygia*** (*Peale*), *Cassin, U. S. Expl. Exped. Orn.* p. 184, pl. xii, fig. 3; *Wallace, P. Z. S.* 1863, p. 384; *Hume, Str. F.* i. p. 296; ii. p. 160; *id.*, *Nests and Eggs Ind. B.* p. 91; *Hume and Dav.*, *Str. F.* vi. p. 51; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* i. p. 8. *Macropteryx spodiopygius*, *Peale, Zool. U. S. Expl. Exped. Birds*, 1st edit., p. 176. *Collocalia inexpectata*, *Hume, Str. F.* i. p. 296.—PEALE'S SWIFTLET.

Whole upper plumage smoky brown; a band across the rump ashy white, the feathers dark shafted; wings and tail glossy brown; under-surface of the body pale smoky brown. Bill black; irides deep brown; legs and feet brownish pink.

*Length*.—4·7 to 4·8 inches; tail 2; wing 4·6 to 5; tarsus 0·35; bill from gape 0·45.

*Hab*.—Tenasserim and the Andaman Islands. According to Mr. Davison it is a permanent resident in the southern portion of Tenasserim, where it is

extremely common and breeds in the islands of the Mergui Archipelago, from Tavoy Islands southwards. Breeds in caves, and makes the edible nests of commerce. "The nest is composed of the most exquisite silvery white gelatine. Exteriorly the surface is compact and somewhat roughened in laminæ; interiorly it is a network of the finest and whitest threads, reminding one of the *Euplectella*. The true nest is pure white, and in shape rather more than half of a shallow cup—from 2 to 2.75 inches broad; stands out from 1.5 to 2 inches from the wall, and varies in depth interiorly from  $\frac{1}{2}$  to 1 inch. The eggs are white and two in number." (*Davison*.)

**967. Collocalia Linchi**, *Horsf. and Moore, Cat. B. E. I. Co. i.* p. 100; *Wallace, P. Z. S.* 1863, p. 384; *Hume, Str. F.* ii. p. 157; *id., Nests and Eggs Ind. B.* p. 89; *Salvad, Ucc. Born.* p. 121; *Hume and Dav., Str. F.* vi. p. 49; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* ii. p. 10. *Hirundo fuciphaga*, *apud, Horsf., Trans. Linn. Socy.* xiii. p. 143. *Collocalia fuciphaga*, *apud, Bl. and Wald., B. Burm.* p. 85. *Collocalia francica*, *apud, Legge, B. Ceylon.* p. 324.—HORSFIELD'S SWIFTLET.

Above glossy bronze-black; chin, throat, sides of the head and of the body ashy-brown, each feather margined paler; abdomen and vent white, streaked with brown; under tail coverts dark brown margined with white; wings and tail glossy black. Bill black; irides brown; feet brownish black.

*Length*.—4 inches; tail 1.75; wing 4; tarsus 0.3; bill from gape 0.4.

*Hab.*—Java, Borneo, the Malay Peninsula, Tenasserim and Arracan; also the Andaman and Nicobar Islands. The correct distribution of this Swiftlet has not yet been ascertained. Mr. Davison's experience of the species is that they are very familiar birds, coming even into the house, and taking up their quarters in it, day after day. It breeds abundantly in both the Andaman and Nicobars. Eggs pure white, devoid of gloss, long ovals, and average 0.7 × 0.45 inch.

Gen. **Dendrochelidon**, *Boiv.* (Macropteryx, *Sws.*)

Hallux not reversible; tarsus short, either naked or feathered; wings long; first two primaries sub-equal; tail long and forked; head sub-crested.

**968. Dendrochelidon coronatus** (*Tick.*), *Sclater, P. Z. S.*, 1865, p. 617; *Jerd., B. Ind.* i. p. 185, No. 104; *Hume, Nests and Eggs*, p. 92; *id., Str. F.* iii. p. 45; *Hume and Dav., Str. F.* vi. p. 51; *Legge, B. Ceylon*, p. 328; *Hume, Str. F.* viii. p. 85; *Parker, Str. F.* ix. p. 476. *Hirundo coronata*, *Tick., J. A. S. B.* ii. p. 580; xv. p. 2. *Macropteryx coronatus*, *Blyth, B. Burm.* p. 86; *Wardlaw-Ramsay, Ibis*, 1877, p. 458; *Oates, B. British Burmah* ii. p. 12.—THE INDIAN CRESTED TREE-SWIFT.

Upper plumage and sides of the neck ashy, tinged with metallic green on the forehead, crown, and the longer upper tail coverts; lores and a narrow space round the eye black; a narrow white supercilium; chin, moustache and ear coverts ferruginous; under surface of the body pale ashy, whitish on the

abdomen, vent and under tail coverts; wing coverts metallic blue; quills brown, suffused with bluish green; tail metallic greenish-brown.

The female differs in having the ear coverts black instead of chestnut, and the chin and moustache ashy like the throat. Bill black; legs blue-black; irides brown.

*Length*.—9 to 9·5 inches; tail 5·2 to 5·5; wing 6·3; tarsus 0·3; bill from gape 0·8.

*Hab*.—Central and Southern India, the Malabar Coast, Wynaad, Mysore, Southern Ghauts of Nellore and the whole of British Burmah. In the sub-Himalayan tract, below Gurhwal and Kumaon, the Mandla districts of the Central Provinces, and in Darjeeling, it is said to be extremely common and to breed. The nest is a shallow half-saucer, composed of flakes of thin bark agglutinated with saliva. Egg one only, pure white, a long almost cylindrical oval, 0·85 by 0·55. The breeding season lasts from April to June.

**969. *Dendrochelidon longipennis*** (*Rafin.*), *Salvad.*, *Ucc. Born.* p. 122; *Hume and Dav.*, *Str. F.* vi. p. 52; *Hume*, *Str. F.* viii. p. 85. *Hirundo longipennis*, *Rafin.*, *Soc. Philom. Bull* iii. 1802, p. 153. *Hirundo klecho*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 143. *Cypselus longipennis*, *Temm. Pl. Col.* 83, fig. 1 (*descr. orig.*) *Dendrochelidon klecho*, *Seclater*, *P. Z. S.* 1865, p. 616. *Macropteryx longipennis*, *Oates*, *B. Br. Burm.* ii. p. 13.—THE MALAYAN CRESTED TREE-SWIFT.

Forehead, crown, nape, sides of the neck, back, scapulars, and upper wing coverts metallic green, each feather more or less margined and edged with blue, darker on the forehead and crown; chin, throat, breast, upper abdomen, sides of the body, rump, the smaller upper tail coverts and tips of scapulars grey, the longer upper tail coverts greenish-brown; lores and cheeks black; ear coverts chestnut; lower abdomen, vent and under tail coverts white; quills brown, tinged with blue; tertiaries whitish; tail greenish at the base, the rest blue.

The female is distinguished by the ear coverts being a greenish brown instead of chestnut, and the young by the upper plumage being tipped with white. Bill black; irides brown.

*Length*.—9 to 9·2 inches; tail 4·5; wing 6·5; tarsus 0·4; bill from gape 0·7.

*Hab*.—Sumatra, Java, Borneo, the Malay Peninsula and Tenasserim. Oates says in Tenasserim from the most southernmost point up to Mergui and Nwalabo mountain. Like the preceding it affects forests and makes its nest of moss and scraps of bark cemented with saliva. He adds (quoting Bernstein, *J. Fur. Orn.* 1859, p. 183,) that the nest is so small, that the bird, also like the last, sits upon the branch, and is able to cover the single large white egg with only the end of her belly.

**970. *Dendrochelidon comatus* (Temm.), Sclater, P. Z. S. 1865, p. 617; *Salvad. Ucc. Born.* p. 123; *Hume and Dav., Str. F.* vi. p. 51; *Hume, Str. F.* viii. p. 85; *Cypselus comatus*, Temm., *Pl. Col.* 268. *Macropteryx comatus*, Oates, *B. Br. Burm.* ii. p. 14.—The TUFTED TREE-SWIFT.**

Forehead, crown, nape, throat, sides of the head, greater, median, lesser, and under wing coverts metallic blue; superciliary streak from the base of bill to nape, the under tail coverts, uppermost tertiaries, the chin and a stripe under the ear coverts white; back, rump, upper tail coverts, sides of the neck, lower throat, abdomen, vent and sides of the body metallic bronze; lores black; ear coverts chestnut; quills and tail brown, tinged with deep blue, more conspicuous on the outer webs.

The female has the ear coverts metallic blue. Bill black; irides dark brown; legs and feet purplish pink. (*Davison.*)

*Length*.—6·5 inches; tail 3·2; wing 5; tarsus 0·3; bill from gape 0·65.

*Hab.*—The Malay Peninsula, Siam, Sumatra, Java, Borneo, Celebes, Timor, the Phillipine Islands, and Tenasserim from the extreme south to Mergui. According to Davison this species frequents by preference clearings where there are a number of dead trees standing.

**Family.**—CAPRIMULGIDÆ, *Vigors.*—GOATSUCKERS.

Bill short, flat, and broad, weak and curved; gape wide, extending to below the eyes, and with numerous strong bristles; wings long or short; tail moderate, of ten feathers; tarsi short; toes long, hind toe joined to inner at base; eyes large; plumage mottled and pencilled; habits nocturnal.

**Sub-Family.**—STEATORNINÆ, *Gray.*

Bill large, wide, depressed, slightly curved and strongly hooked; gape very wide; base of bill covered with feathers and bipectinated bristles. Hallux partially reversible in some. (*Ferd.*)

**Gen. *Batrachostomus*, Gould.**

Bill very large, strong, broad and hooked at tip; nostrils narrow, lateral, covered by plumes; no rictal bristles; wings short and rounded; tail long; tarsi feathered.

**971. *Batrachostomus moniliger*, Blyth, J. A. S. B. xvii. p. 806; *Ferd., B. Ind.* i. p. 119, No. 105; *Str. F.* ii. p. 350; iv. p. 376; vi. p. 55. *Podargus Javensis*, *Ferd., 2nd Suppl. Cat.* 253. *Batrachostomus Javensis*, (*Horsf.*), *Str. F.* vii. p. 147.—The WYNAAD FROGMOUTH.**

Above with the throat and breast bright bay or chestnut; a torque of white spots edged black on the upper part of the breast and another below it; belly and lower tail coverts pale isabelline with similar but smaller spots; flanks mottled with dusky; coronal feathers long; occipital



feathers tipped white and edged black, forming a nuchal ring continuous with the pectoral collar; supercilium pale rufescent; loreal plumes tipped black and white; wing coverts tipped white and edged black; tertiaries pale, mottled dusky, with a minute terminal black and white spot; primaries black; scapulars like the tertiaries; tail mottled and obscurely banded, each band ending in a series of white spots, successively more developed on each outer feather, the lateral halves of the tail separated into two distinct lobes. (*Ferd.*) Bill black; irides hazel.

*Length*.—10 inches; tail 4·25; wing 4·75; tarsus 0·7; bill from gape 1·2; width at gape 1·1.

*Hab.*—The Malabar Coast, Wynaad, Coorg, Travancore and the Central Provinces. Very little is known of its habits or of that of any other species of the genus, being a nocturnal bird. Mr. Bourdillon, however, says that, if he is not mistaken, the habits of this species is very shy and retiring, for it never appears to venture into the open, and only commences calling in the breeding season some considerable time after dark, and lives entirely in dense jungle. He adds that it is a very difficult bird to secure.

**972. *Batrachostomus affinis*, Blyth, *J. A. S. B.* xvi. p. 1180; *id.*, *J. A. S. B.* xviii. p. 806; *Hume, Str. F.* ii. p. 351; iv. p. 376; *Tweeddale, P. Z. S.* 1877, p. 426, pl. 45; *Hume and Dav., Str. F.* vi. p. 53; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* ix. p. 149; *Oates, B. Br. Burm.* ii. p. 15. *Otothrix Hodgsoni*, *G. R. Gray, P. Z. S.* 1859, p. 101, pl. clii.; *Ferd., B. Ind.* i. p. 190, No. 106; *Hume, Nests and Eggs Ind. B.* p. 93; *id., Str. F.* ii. p. 348. *Batrachostomus Hodgsoni*, *Blyth and Wald., B. Burm.* p. 83; *Hume and Dav., Str. F.* vi. p. 53; *Hume, Str. F.* viii. p. 85.—HODGSON'S FROGMOUTH.**

Crown and nape black, barred with rufous white; back and wing coverts barred and spotted with black and rufous; scapulars with large white blotches; primaries, secondaries and tertiaries brownish black, the primaries with rufous bars on the outer webs, and the secondaries with the same on both webs; tail ferruginous, with black specks and oblique bands of rufous white; beneath whitish, barred with rufous and tipped with black. Bill light madder; legs the same, tinged with violet; iris marbled buff. (*Wardlaw-Ramsay*.)

*Length*.—7 to 8 inches; tail 5·4 to 5·5; wing 5·1 to 5·3; tarsus 0·7; bill from gape 1·2; width of gape 1.

*Hab.*—Malacca, Sikkim and Tenasserim.

Very little is known of the habits and distribution of this species. From *Hume's Nests and Eggs Ind. B.*, I learn that Mr. Hodgson has figured a young bird of this species with remarks on the reverse of the plate, that the female with young and nest were obtained on the 20th May 1856, behind Darjeeling, towards the Great Runjeet, at an elevation of between 3,000 and 4,000 feet; nest nearly flat; a soft mass of lichen and moss overlaid with a soft downy vegetable substance blended into a felt-like mass.

### Sub-Family.—CAPRIMULGINÆ.

Bill small and weak, with bristles at the base; wings long; tail rather long; tarsi short, scaled or plumed; middle toe longest; its claw long and serrated. Found in most parts of the world; all live on insects, which they capture on the wing.

#### Gen. *Caprimulgus*.—*Lin.*

General characters as in the sub-family. Bill very short, flexible and broad at base, compressed and bent at the tip; rictal bristles strong and numerous.

**973. *Caprimulgus asiaticus*, Lath., Ind. Orn. iii. p. 588; Jerd., B. Ind. i. p. 197, No. 112; Hume, Nests and Eggs p. 97; id., Str. F. iii. p. 46; Blyth, B. Br. Burm. p. 46; Hume and Dav., Str. F. v. p. 59; Legge, B. Ceylon, p. 343; Brooks, Str. F. vii. p. 169; Hume, Str. F. viii. p. 85; Murray, Hdbk., Zool., &c., Sind, p. 126; id., Vert. Zool. Sind, p. 106; Bingham, Str. F. ix. p. 150; Oates, B. Br. Burm. ii. p. 17.—The COMMON INDIAN NIGHT-JAR.**

Plumage remarkably soft and lax, pale rufescent ashy; the feathers finely pencilled and mottled with dusky; top of head with narrow longitudinal blackish streaks; neck with a white spot; collar rufescent; wing coverts and scapulars edged with buffy or tawny; quills with a white spot on each of the first four feathers, and mottled at the tip, the exterior feathers with a large white patch near the tips of the inner webs; a central patch of white on the throat. Lower parts and tail irregularly barred and mottled lightly; the tail, in the male, with white spots on the outer tail feathers; *tarsi bare*.

*Length*.—9 inches; extent 18 to 18·5; wing 5·5 to 6; tail 4·5.

*Hab.*—Very widely spread in India and Ceylon. Occurs in Sind, the Concan and Deccan, Kutch, Kattiawar, and North Guzerat; recorded also from Upper Pegu and Amherst. Breeds wherever it is found, ascending the lower ranges of the Himalayas to the height of 5,000 or 6,000 feet in spring and summer. May is the month in which they breed, but eggs have also been taken in April. Eggs, two in number, long, cylindrical ovals, of a pinkish stone colour, blotched, clouded, spotted and streaked with different shades of pale reddish and purplish brown. Average size 1·04 × 0·77. The eggs are laid in a depression on the ground.

**974. *Caprimulgus mahrattensis* (Sykes), Jerd. Ill. Ind. Orn. p. 24 pl.; Gould, B. Asia; Jerd., i. p. 197, No. 113; Hume, Str. F. i. 167; iii. pp. 206, 381, 455; iv. pp. 254, 501; vii. p. 181; viii. p. 372; ix. p. 381; Murray, Hdbk., Zool., &c., Sind, p. 127.—SYKES' NIGHT-JAR.**

General colour pale sandy-grey, variegated with pencillings of dusky and ferruginous; head very sparingly streaked and spotted; breast with a white spot; wing coverts, scapulars and tertiaries with buffy spots; primaries with a white spot on the outer webs of the three exterior feathers, mottled

grey at the tip and with fulvous bands; tail pale grey; the central feathers finely vermiculated; the rest with zigzag pencillings or bands of black, tipped fulvous and spotted on the two lateral feathers with white; under tail coverts fulvous.

*Length*.—8·75 to 9·5 inches; wing 6·75 to 7; tail 4·5 to 5.

*Hab.*—India generally and Ceylon. A permanent resident in Sind, breeding on the plains in February and March. A resident also of Kutch, Kattiawar, N. Guzerat and Jodhpore. Occurs in the Punjab (Dera Ghazi Khan), Beloochistan and the Deccan

**975. *Caprimulgus monticolus*, Frankl., P. Z. S. 1831, p. 116; *Jerd., B. Ind.* i. p. 198, No. 114; *Hume, Nests and Eggs Ind. B.* p. 98; *id.*, *Str. F.* iii. p. 46; *Blyth's B. Burm.* p. 83; *David et Oust. Ois. Chine*, p. 67; *Davison, Str. F.* v. p. 453; *Hume and Dav., Str. F.* vi. p. 59; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* ix. p. 151; *Oates, B. Br. Burm.* ii. p. 18.—FRANKLIN'S NIGHT-JAR.**

Upper surface of the body from pale ashy brown to dark ashy, variegated with rufous and dusky; under-surface of the body banded with dusky reddish; primaries brownish black; first primary with a streak of rufous white on the outer web and a large patch of white on the inner; next three primaries with a patch of white extending across both webs; tail feathers ashy brown, the six middle ones with slender black undulations, and the two outer feathers entirely white and narrowly tipped with brown; tarsus bare. The female is paler in colour, and has the patches on the four primaries rufous instead of white; all the tail feathers barred black and rufous.

Bill pale brown, dark horny at the tip; iris dark brown; legs and feet pale fleshy brown; claws horny.

*Length*.—10 inches; tail 4·5; wing 7·5; tarsus 0·8; bill from gape 1·25.

*Hab.*—Nearly throughout India, from the extreme South to the Himalayas, extending into Arrakan and Burmah, but is somewhat locally distributed. It is recorded from Khandeish, Central Provinces (Mhow and Saugor), the Nerbudda Valley, Godavery, Calcutta, Tonghoo, in Burmah, various localities in Tenasserim and the Thoungyeen Valley. It is also spread over Central and Southern China. Breeds from April to August, almost everywhere it is found. Eggs, normally two in number, are laid on the bare ground in some shady and concealed spot; they are not unlike those of *C. asiaticus*, but larger and with more of the salmon hue and less of a stone colour, thickly clouded and streaked with pale brownish-red. In size they vary from 1·1 to 1·22 inch in length and from 0·8 to 0·85 in breadth.

**976. *Caprimulgus albonotatus*, Tick., J. A. S. B. ii. p. 580; *Jerd., B. Ind.* i. p. 194, No. 109; *Hume, Nests and Eggs Ind. B.* p. 95; *id.*, *Str. F.* iii. p. 45; *Wald. in Blyth's B. Burm.* p. 83; *Hume and Dav., Str.***

*F.* vi. p. 57; *Cripps, Str. F.* vii. p. 257; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* ii. p. 19. *Caprimulgus macrurus*, *Horsf., Trans. Linn. Soc.* xiii. p. 142; *Ferd., B. Ind.* i. p. 195, No. 110; *Hume, Str. F.* iii. p. 46; *Blyth and Wald., B. Burm.* p. 83; *Hume and Dav., Str. F.* vi. p. 58; *Oates, B. Br. Burm.* ii. p. 20.—The LARGE BENGAL NIGHT-JAR.

Crown and tertiaries cineraceous, minutely mottled with black; the crown with a broad black mesial longitudinal streak; wing coverts and scapulars black, bordered broadly with rufescent white; neck in front with a broad white patch; first primary with a white spot on the inner web; the next three with a white patch extending across both webs; outer tail feathers with a broad white tip; rictal bristles white at base and tipped black.

The female is like the male, except that the white on the tail is tinged with rufous and is much contracted, and the marks on the primaries are narrow, ill-defined and rufescent. Bill pinkish brown; irides brown; feet and legs brown.

*Length.*—13 inches; tail 6·8 to 7; wing 8·4 to 9; tarsus 0·7; bill from gape 1·4; wings reach from 1·5 to 2 inches beyond the tip of the tail.

*Hab.*—The Malay Peninsula to Northern Australia, the Burmese countries and the hill tracts of Eastern Bengal, Sikkim, and a great portion of Northern and Central India. Inhabitant of forests and well-wooded localities. Breeds from March to May, and like the other species lays two eggs. Habits the same. Eggs of a salmon colour, blotched with pink and brown. In size they vary from 1·08 to 1·3 inch, and in breadth from 0·85 to 0·95.

**977. *Caprimulgus atripennis*, *Ferd., Ill. Ind. Orn.* pl. 24; *id., B. Ind.* i. p. 196, No. 111. *Caprimulgus spilocircus* (Gray), *Hume, Nests and Eggs Ind. B.* p. 97.**—The GHAUT NIGHT-JAR.

Similar to *C. albonotatus*, except that it is smaller; 10·5 inches against 12 to 13 inches in length; wing 6·5 against 8·5 to 9 inches. In colour it has a russet tinge about the nape, breast and back; quills black, not mottled at the tip; ear coverts ferruginous.

*Hab.*—Eastern ghauts; nearly throughout Southern India, Malabar Coast, and Ceylon. According to Hume, it breeds on the Neilgherries. The eggs have the usual gloss and a pale somewhat creamy pink ground, faintly streaked and mottled all over with pale reddish and purple. Eggs average 1·13 × 0·72.

**978 *Caprimulgus Unwinii*, *Hume, Str. F.* iii. p. 407; iv. p. 501; vii. p. 175; viii. pp. 180, 189, 236, 372; ix. pp. 313, 315; *Ibis*, 1871, i. p. 406; *id.*, 1877, pp. 249, 250; *Murray, Zool., &c., Sind*, p. 125.**—UNWIN'S NIGHT-JAR.

Mr. Hume, in describing this species, says: "It has the *upper three-fourths of the tarsus feathered in front*. In both sexes the two outer tail feathers on each side are tipped with white; but the tipplings are about 1·55 and 1·0 broad in the male on the outer and penultimate feathers,

respectively, and only about 0·75 and 0·44 in the female, and in the latter sex the white is less pure. Both sexes have a white spot on the inner webs of the first three, and a corresponding one on the outer webs of the second and third primaries; but here again, while the white spots on the inner webs of the male are about one inch broad, those of the female are about half of that size." He adds: "The best description I can give of its plumage is, that it is an excessively pale version of *C. Indicus*, and that while (with the exception of the difference in the size of the white markings on tail and wings) the sexes closely resemble each other, the under tail coverts of the male are a uniform rufous buff, while those of the female are somewhat paler and are very distinctly barred with narrow bars more than a quarter of an inch apart"; but Mr. W. T. Blanford, in a letter to the *Ibis*, vol. i., 1877, pp. 249-250, states "that after examining all Mr. Hume's specimens of this species with specimens of *C. Europæus*, (a large English female and a male specimen from Europe,) the sex of one of the types of *C. Unwinii* was probably wrongly determined, and that instead of being male and female, both skins are those of males, and that they are quite distinct from *C. Mahrattensis*, and belong to the pale grey race of *C. Europæus*, of which he obtained specimens in S.-E. Persia." He adds "whilst the name of *C. Unwinii* must become a synonym, *C. Europæus* must be added to the Indian fauna."

The following is a description of *Caprimulgus Europæus*, Linn.:—

Plumage above and that of the throat ashy grey, thickly streaked and spotted with brown, mostly of a yellowish tinge; head and neck with longitudinal blackish streaks; a white stripe beneath the base of the lower mandible extends along each side of the lower part of the head, and there is a central patch of white upon the throat. Primaries, secondaries, and tertiaries dark brown; the outer webs blotched with reddish brown, and the three exterior feathers with a large white patch near the tips of the inner webs. Tail irregularly marked and indistinctly barred with blackish grey and yellowish brown; the two external feathers on each side white at their termination; plumage of under parts yellowish brown; tarsi paler. Female like the male, the white spots on quills and tail feathers absent.

*Length*.—10·3 to 10·6 inches; expanse 21; wing 6 to 6·2; tail 4·5 to 5.

This species is a visitant to Sind, and has hitherto been found at Hyderabad and in its neighbourhood, also in Beloochistan and Afghanistan, Nepal, Gilgit, and Persia. Breeds in Afghanistan at Chaman, where Lieut. H. E. Barnes obtained unfledged birds. It arrives in September and remains till about the end of October, some few being seen as late as the first week in November.

**979 *Caprimulgus indicus* (Latham), *Ferd., Ill. Ind. Orn.* letter press to pl. 24 (in part); *id.*, *B. Ind.* i. p. 192, No. 107; *Hume, Str. F.* iv. p. 381; *id.*, vi. pp. 56-57.**—The JUNGLE NIGHT-JAR.

Upper surface of the body pale ashy, with dusky pencillings and black streaks on the head, neck behind, back, scapulars, rump, and upper tail coverts; wing coverts the same and with fulvous spots or blotches; tail cinereous, with narrow black bars and dusky mottlings, the outer feathers tinged with rufous; all except the middle feathers with a subterminal white spot; *tarsus feathered*; quills with dark rufous spots or interrupted bars, on the first three primaries; beneath rufescent ashy, with dark bars and mottlings.

The female has these marks more or less rufescent and wants the white terminations to the tail feathers; the primaries are strongly mottled towards their tips; the first primary nearly equals the fourth. Bill dusky brown; irides hazel.

**980. *Caprimulgus Kelaarti*.** *Blyth, J. A. S. B.* xx. p. 175; *id., J. A. S. B.* xiv. p. 208; *Jerd., Pl. Ind. Orn.* pl. 24; *Hume, Str. F.* iv. p. 381.—The NEILGHERRY NIGHT-JAR.

Plumage above and below light cinereous, tinged on the scapulars and under surface with pale fawn; head, neck, back, scapulars, rump and upper tail coverts mottled and pencilled with black and dusky; ear coverts black, edged with light rufous; a line from below the ear coverts to the gape, also the throat white; first four primaries with a white spot on the under web; all mottled at the tips except the middle feathers, all the tail feathers tipped with white and margined with dusky. Bill dusky brown; irides brown.

*Length*.—11.5 inches; tail 5.75; wing 7 to 7.2.

*Hab.*—The Neilgherries, Central Provinces, on the Ghauts and Ceylon. Hume says it breeds throughout Southern India and the Central Provinces from February to August; the eggs, not unlike those of other species, are laid in a depression in the ground under a bush or tuft of grass. They are two in number, and resemble exactly those of *C. indicus*.

**981. *Caprimulgus jotaka*.** *Tem., Pl. Schleg. Faun. Jap. Aves.* p. 37, pls. xii.-xlii.; *Wald. in Blyth, B. Burm.* p. 83; *Godwin-Aust., J. A. S. B.* xliii. pl. ii. p. 153; *Dav. et Oust. Ois. Chine*, p. 67; *Anderson, Yunnan Exped.* p. 588; *Hume and Dav., Str. F.* vi. p. 56; *Hume, Str. F.* viii. p. 85; *Scully, tom. cit.* p. 236; *Oates, B. Br. Burm.* ii. p. 21. *Caprimulgus indicus*, *apud, Blyth, B. Burm.* p. 83; *Hume and Dav., vi.* p. 56.—The JAPANESE NIGHT-JAR.

Of very dark colour, most of the marks on the upper plumage being black; first primary with a white spot on the inner web not reaching to the shaft; no patch on the outer web; second and third primaries with a patch of white across both webs; fourth primary with a white patch on the inner web and a rufescent one on the outer; in some specimens the patches on the outer webs of the second and third primaries are rufous; all the tail feathers except the

central ones, with a band of pure white near the tip, about 0·5 inch wide, and the same distance from the tip.

The female has the same dark plumage as the male, the patches on the primaries are rufous, small and ill-defined; there is no white whatever on the tail, all the feathers being black, barred with rufous. (*Oates*.)

*Length*—12 inches; tail 5·5; wing 8·4 to 8·8; tarsus 0·65; bill from gape 1·4.

*Hab.*—China, Mongolia, Eastern Siberia and Japan. Has been procured near Bhamo in Native Burmah, hills of the N.-E. Frontier and Nepaul. In British Burmah, *Oates* says, it is apparently a rare bird. It has been procured at Tonghoo and Tenasserim. Quoting Messrs. Blackiston and Pryer, *Oates* says that the eggs are two in number, white, patched with grey, and that they are placed on the ground. Colonel Godwin-Austen found the eggs in May.

### Sub-Family—PODAGERINÆ.

Inner toe longer than the outer; tarsus longer than in the *Caprimulginae*; head with lengthened feathers forming ear tufts in some species.

### Gen. *Lyncornis*.—*Gould*.

Head with lengthened feathers forming ear tufts.

**982. *Lyncornis cerviniceps*, *Gould*, *Icones Avium*, pt. ii. pl. 4; *Blyth*, *B. Burm.* p. 82; *Wardlaw-Ramsay*, *Ibis*, 1877, p. 459; *Davison*, *Str. F.* v. p. 454; *Hume and Davison*, vi. p. 60; *Hume*, *Str. F.* viii. pp. 48, 85; ix. p. 120; *Bingham*, *Str. F.* ix. p. 151.**—THE BURMESE EARED NIGHT-JAR.

Forehead, crown and nape clear buff, very finely vermiculated with black; ear tufts black, tipped with buff; upper plumage and wings buff, variegated with chestnut and black; tail barred buff and black; throat and breast dark chocolate brown, the feathers slightly tipped with chestnut; a broad band of white across the throat; lower plumage black, barred with buff. (*Oates*.)

Irides dark brown; bill light horn colour; claws light brown.

*Length*.—16 inches; tail 8·5; wing 12; tarsus 0·8; bill from gape 1·7.

*Hab.*—British Burmah, where, according to *Oates*, it is generally spread all over the country in suitable localities. He observed it to be very abundant at the foot of the Arracan hills near Prome. Colonel Lloyd got it at Tonghoo, and Capt. Wardlaw-Ramsay between Thayetmyo and Tonghoo. It frequents hilly country where the forest is dense and the ground broken up by rivers and ravines. *Oates* adds that they associate in large flocks, roost in caves during the day, and come out late in the evening as the darkness deepens and fly close to the ground. An egg belonging to this species was found by Mr. Davison at Malewoon in January. It was of a cream colour, marked with lilac-grey.

## SUB-ORDER—COCCYGES HETERODACTYLÆ.

## Family—TROGONIDÆ.

Bill short, stout, somewhat triangular, strong and curved from the base, the tip and sometimes the margin toothed; gape wide; nostrils and base of bill concealed by long tufts of bristles; wings moderate or short; tarsus short, partially feathered; toes short, two before and two behind, inner toe being turned backwards; tail long and broad of 12 feathers; plumage soft; skin tender and thin.

Gen. **Harpactes**, Swainson.

Bill strong, broad and deep, conic and much curved; nostrils partially covered by hairs; tarsus half-feathered; orbital region nude. Birds of rich plumage, living in dense forests, and feeding on insects, which, like the *Caprimulgidæ*, they capture in the air.

**983. *Harpactes fasciatus*, (Gmel.), *Jerd.*, *B. Ind.* i. p. 201, No. 115; *Hume, Str. F.* vii. p. 507. Trogon Malabaricus, *Gould, Monog.* pl. 31.—The MALABAR TROGON.**

Entire head and neck black; rest of the upper plumage castaneous olive-brown; lesser wing coverts, tertiaries and some of the secondaries finely streaked with black and white; breast, belly and lower parts fine crimson red; tail with the centre feathers more chestnut than the back; rest black and white. The *female* has the head and neck of the same colour as the body, and the wing coverts and tertiaries are finely banded black and brown; lower plumage ochreous yellow. Bill deep blue; orbital skin smalt blue; irides dark brown; feet light lavender-blue. (*Jerd.*)

*Length.*—12 inches; tail 6; wing 5; tarsus 0·6; bill at front 0·5; at gape 1·0.

*Hab.*—Malabar, Central India and Ceylon. Found in the forests of Malabar from the extreme south to about N. lat. 17°, reaching up the ghauts and hill ranges to at least 3,000 feet. Jerdon adds that it prefers the more elevated situations, and keeps to the thickest parts of the woods. It is usually solitary, and sometimes in pairs. Layard says it is found in small parties of three or four and feeds on various insects.

**984. *Harpactes erythrocephalus*, *Gould, Monog. Trog.* 2nd Edit., pl. 43, *Hume and Dav., Str. F.* vi. p. 498; *Hume, Str. F.* viii. p. 85; *Oates, Str. F.* viii. p. 164; *Bingham, Str. F.* ix. p. 152; *Hume and Inglis, Str. F.* ix. p. 246; *Oates, B. Br. Burm.* ii. p. 99. Trogon erythrocephalus, *Gould, P. Z. S.* 1834, p. 25; *id.*, *Mon. Trogon*, 1st Edit. pl. 33. Trogon Hodgsoni, *Gould, t. c.* 1st Edit. pl. 34. *Harpactes Hodgsoni*, *Gould, t. c.* 2nd Edit. pl. 42; *Jerd.*, *B. Ind.* i. p. 202, No. 116; *Hume, Nests and Eggs Ind. B.* p. 99; *Blyth, B. Burm.* p. 82; *Hume, Str. F.* iii. p. 47; *Hume and Davison, Str. F.* vi. p. 66.—The RED-HEADED TROGON.**



Head, nape, throat, neck, breast and lower plumage rich, but dull dark crimson; back, scapulars, lesser wing coverts, rump and upper tail coverts chestnut brown or ferruginous, brightest on the rump; greater wing coverts, the median series and tertiaries, finely vermiculated with undulations of black and white; quills black, the outer margins of the primaries whitish near the base; secondaries black, vermiculated with white on their outer webs; two central tail feathers deep chestnut, tipped with black; next pair chestnut on the outer webs, and black on the inner web and at tip; outer three black, with a broad white tip and part of the outer web also white. The *female* has the whole head, neck, breast and upper parts ferruginous brown, lighter on the rump and upper tail-coverts; the lower plumage is light crimson; lesser wing coverts and tertiaries vermiculated with black and buff.

Bill smalt blue, blackish on the culmen and at tip of both mandibles; irides dull red, or chestnut brown; orbital skin lavender blue; legs and feet pale lavender.

*Length*.—13 to 13·5 inches; tail 8; wings 5·8 to 6; tarsus 0·6; bill at front 0·6; at gape 1·1.

*Hab.*—Himalayas, from Nepaul eastwards to Sylhet, Assam, Arracan, and Tenasserim, also Sikkim. Oates says it is found abundantly over the whole of Pegu and Arracan in tracts of heavy forest, and is more common on the hills than in the plains. Jerdon says he found it at Darjeeling at elevations of 4,000 feet, frequenting dark shaded valleys and flying from tree to tree. He had the eggs brought to him, said to have been taken from a hole in a tree. They were two in number, white and somewhat round. According to Hodgson, they lay in April, making a hole in a decayed tree. He gives the number of eggs as 3 to 4, pure white, moderately broad ovals, slightly pointed towards one end, and measure about 1·25 by 0·87 inch. Oates however says that the eggs he found near Pegu in May were 3 in number, laid on the bare wood in the hollow of a decayed tree, and were a *very pale buff in colour*. The colour of the eggs found by Capt. Bingham in Tenasserim in March is not stated.

**985. *Harpactes oreskios* (Temm.),** *Wald.*, *P. Z. S.* 1866, p. 538; *Gould, Monog. Trogon.* 2nd Edit., pl. 46; *Hume, Str. F.* iii. p. 47; *Bingham, Str. F.* v. pp. 50, 82; *Dav., Str. F.* v. p. 454; *Hume and Dav.*, vi. p. 66; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* ii. p. 100. *Trogon oreskios*, *Temm., Pl. Col.* 181; *Gould, Monog.* 1st Edit. pl. 36. *Harpactes Gouldii*, *Swains., Classif. B.* ii. p. 337. *Orescius Gouldii*, *Salvad. Ucc. Born.* p. 31. *Harpactes orescuis*, *Blyth, B. Burm.* p. 82; *Oates, Str. F.* x. p. 186.—The **YELLOW-BREASTED TROGON**.

Forehead, crown, nape, sides of the head and of the neck yellowish green; chin, throat and upper breast dull yellow; lower breast, abdomen and sides brilliant orange yellow; vent and under tail-coverts yellow; back, scapulars,

rump and upper tail coverts chestnut; central tail feathers chestnut, tipped with black; next two pairs black; outer pairs black at base, white at tip; lesser wing coverts chestnut brown; greater and median coverts and tertiaries black, closely barred with white; secondaries black, barred with white on the outer webs only; primaries black, the outer webs of the second to the eighth edged with white. (*Oates*.)

The *female* has the upper plumage reddish brown; the head and nape olive brown; wings and tail as in the male, except the coverts, secondaries and tertiaries which are buff, and the chin yellowish; lower parts yellow. Bill smalt-blue, culmen and tip blackish; orbital skin bluish; legs plumbeous; irides dark brown.

*Length*.—12 inches; tail 7·3; wings 5; tarsus 0·6; bill from gape 0·85.

*Hab.*—Sumatra, Java, Siam, Cambodia, and the greater part of British Burmah. It occurs also in Arracan and Tenasserim. Like the last confined to dense forest. Breeds in Tenasserim during the months of February and March. Eggs 2—3 in number, placed in a hole in a branch of a tree, and of a pale buff colour.

**983. *Harpactes Duvaucelli* (Temm.),** *Gould, Monog. Trog.* 2nd Edit., pl. 40; *Hume and Dav., Str. F.* vi. p. 63; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* ii. p. 101. Trogon Duvaucelli, *Temm., Pl. Col.* 291; *Gould, Monog. Trog.* 1st Edit., pl. 32. Pyrotrogon Duvaucelli, *Salvad. Ucc. Born.* p. 21.—DUVAUCELL'S TROGON.

Whole head and neck black; back and scapulars ruddy buff; rump, upper tail coverts, breast and lower plumage bright crimson, paler on the vent and under tail coverts; central tail feathers bright bay, sometimes tipped black; next two pairs black; the rest black at base and broadly tipped white; wings blackish; all the coverts, tertiaries, outer webs of the secondaries and of the first primary barred with white; outer webs of the other primaries narrowly edged with white. (*Oates*.) The *female* has the head brown tinged with rusty on the throat; lower plumage pale crimson; wing bars buff; rump and upper tail coverts like the back, but washed with crimson.

Bill on the sides and gape cobalt blue; culmen and tip of upper and lower mandible black at base; legs smalt blue; irides deep brown; orbital skin pale blue.

*Length*.—10 inches; tail 5·4; wing 4·2; tarsus 0·4; bill from gape 0·9.

*Hab.*—The Malay Peninsula, Sumatra, Borneo, and the extreme south of Tenasserim. Habits not unlike the other members of the genus.

### SUB-ORDER.—ZYGODACTYLI.

Bill various, more or less arched, often straight and angular; toes two before and two behind; outer hind toe often reversible.

**Family—CUCULIDÆ, Leach.—CUCKOOS.**

Bill rather slender and compressed, curved above, tip hooked; gape wide; nostrils in a membranous groove; wings long; tail rounded.

**Sub-Family—CUCULINÆ.**

Tarsi short, feathered and scaled; bill broad, flattened at base.

**Gen. Cuculus.—Lin.**

3rd quill longest; two outer feathers of tail shortest; tarsi feathered below the knee; outer front toe longest, united at base to the inner toe and reversible.

**987. *Cuculus canorus*, Linn., *Syst. Nat.* i. p. 168; *Jerd., B. Ind.* i. p. 322, No. 199; *Hume, Nests and Eggs Ind. B.* p. 133; *Wald., Trans. Zool. Soc.* viii. p. 115; *Hume, Str. F.* iii. p. 78; *Blyth, B. Burm.* p. 79; *Hume, Str. F.* iv. p. 288; *Wardlaw-Ramsay, Ibis*, 1877, p. 458; *David et Oust. Ois. Chine*, p. 65; *Legge, B. Ceylon*, p. 221; *Anders., Yunnan Exped.* p. 589; *Dresser, B. Europe* v. p. 199, pl.; *Hume and Dav., Str. F.* vi. p. 156; *Hume, Str. F.* viii. p. 88; *Scully, Str. F.* viii. p. 253; *Oates, Str. F.* x. p. 192; *id., B. Br. Burm.* ii. p. 103; *Murray, Hdbk., Zool., &c., Sind*, p. 131; *id., Vert. Zool. Sind*, p. 116.—The EUROPEAN CUCKOO.**

Head and upper parts dark ashy, ashy, or pale blue; breast and belly white, elegantly crossed with wavy bars of black; the quills are dusky, their inner webs marked with large oval white spots; tail long, the two middle feathers black with white tips, the others dusky, with alternate spots of white on each side of the shaft; legs short, yellow; bill black, yellowish at base beneath; orbits and irides deep yellow. The young bird has the whole upper plumage, wings and tail barred with ferruginous and the feathers tipped white; lower plumage, white, barred with brown.

*Length.*—14 inches; wing 8·75 to 9; tail 7; bill at front 0·75.

*Hab.*—Europe, N. Africa, China, Formosa, Beloochistan, Persia, S. Afghanistan, Eastern Turkistan, and India generally; Nepaul, Burmah, Ceylon, Upper Pegu, and throughout Western, Central, and Southern India as a migrant. It arrives in Sind during August and September. Breeds in the Himalayas, round Almorah, Kumaon, and Kotegurh during the latter half of May, selecting the nests of Pipits and Stone-chats, also *Malacocirci*. The eggs are variable in size and colouring, but the general colour is pure white, thinly freckled and streaked with brownish red and pale purple. Length from 0·88 to 0·95 inch, breadth 0·68 to 0·73.

**988. *Cuculus striatus*, *Drap., Dict. Class. d'Hist. Nat.* iv. p. 570; *Swinhoe, P. Z. S.* 1871, p. 395; *Hume, Str. F.* ii. p. 190; *id., Nests and Eggs Ind. B.* p. 134; *Blyth, B. Burm.* p. 79; *Dav. et Oust. Ois. Chine*, p. 65; *Hume and Dav., Str. F.* vi. p. 156; *Hume, Str. F.* viii. p. 88; *Scully,***

*Str. F.* viii. p. 255; *Hume, Str. F.* ix. p. 315 (Note); *Oates, Str. F.* x. p. 193; *Oates, B. Br. Burm.* ii. p. 105. *Cuculus Himalayanus, Vigors, P. Z. S.* 1831, p. 172; *Ferd., B. Ind.* i. p. 323, No. 200; *Seeböhm, Ibis*, 1878, p. 326.—The ASIATIC CUCKOO.

Upper plumage uniform dark bluish ashy, cinereous on the wings; inner webs of quills barred and spotted with white; tail dark ashy grey; *the feathers with a subterminal dark bar* and large white shaft spots, which on the outer feathers become bars; chin, throat, and breast pale grey; rest of under surface white or buffish white, closely barred with dusky black, except on the under tail coverts, where the bars are nearly obsolete. Bill with the upper mandible and tip horny green; rest of lower mandible yellowish horny. Legs and feet, also the irides, yellowish horny.

*Length.*—12 inches; tail 5·75 to 6; wing 6·8 to 7; tarsus 0·7; bill from gape 1·1.

*Hab.*—The greater portion of Asia, Australia, Siberia, Pegu, Sikkim, Khasia hills, Pegu and Tenasserim; also the Nicobars and Cashmere. (*Brooks.*) *Oates* says it is rare in Pegu, but, according to *Davison*, not so in Tenasserim. It lays during June in the Himalayas, depositing its eggs in the nest of *Trochilopteron lineatum*. The egg is a nearly perfect oval, pure white, with minute specks and tiny lines of dingy olive brown and very pale inky purple or purplish grey.

**989. *Cuculus poliocephalus*, Latham, Ind. Orn. i. p. 213; Ferd., B. Ind. i. p. 324, No. 201; id., 2nd Suppl. Cat. No. 223 bis; id., Ibis, 1872, Suppl. List; Legge, B. Ceylon p. 231. *Cuculus Himalayanus, Gould, Cent. Him. B.* pl. 54; *Hume, Nests and Eggs Ind. B.* p. 135.—The SMALL or HOARY-HEADED CUCKOO.**

Upper surface of the body ashy, tinged sometimes with rufous bay, and slightly glossed with green on the back and upper tail coverts; quills brown, glossed greenish, with numerous close large white spots; tail deep ashy or blackish brown, with large white spots on the middle of each feather and on the edge of the inner webs, also at the tip; chin and throat pale ashy; breast tinged with rusty; under surface of the body white, with narrow distant bars of dark brown or buff; under tail coverts white. Bill dusky horny; irides reddish brown.

*Length.*—10 to 10·6 inches; tail 5·1 to 5·2; wing 5·6; bill at front 0·6; tarsus 0·6.

*Hab.*—The Himalayas, migrating to the plains during winter. *Jerdon* says it has been found as far south as Nellore on the East Coast; at Darjeeling it is said to be tolerably common. Nothing certain, *Hume* says, is known of the eggs of this species. *Mr. Thomson*, he adds, says it lays in May and June. *Mr. Brooks*, in Cashmere, took an egg supposed to belong to this species from the nest of *Reguloides superciliosus* at Goolmerg, Cashmere, on 2nd June;

"It was an elongated cylindrically ovate egg, nearly the same size at both ends, which are obtuse, pure white and glossy; size 0·81 by 0·57 inch.

**990 *Cuculus Sonneratii*, Lath, Ind. Orn. i. p. 215; Jerd., B. Ind. i. p. 325, No 220; Wald., Trans. Zool. Soc. viii. p. 55; Blyth, B. Burm., p. 80; Anderson, Yunnan Exped. p. 587; Hume and Dav., Str. F. vi. p. 156; Legge, B. Ceylon p. 233; Hume, Str. F. viii. p. 88; Vidal, Str. F. ix. p. 54; Oates, B. Br. Burm. ii. p. 107.**—The BANDED CUCKOO.

General colour above dusky tinged with greenish and closely barred with rufous; the wing coverts barred with paler rufous or white; outer web of quills rufescent; tail rufous, the feathers dusky on the outer webs; the inner webs narrowly barred, the tip white and with a subterminal broad, dusky bar; beneath, from throat, white, tinged with fulvous on the flanks and marked with numerous narrow dusky cross bars; sides of the head and neck white barred with dusky; ear coverts dusky.

The young are more coarsely barred than adults, with pale rufescent on a blackish ground; breast white, banded with dusky; central feathers of tail nearly black, the edges scolloped with rufous; outer feathers dusky. (Jerd.) Bill dusky; irides brown; legs greenish grey.

*Length*.—9·5 inches; tail 4·5; wing 4·8; tarsus 0·7; bill from gape 1·1.

*Hab.*—Peninsular India and Ceylon, also Tenasserim and the Indo-Burmese countries. Jerdon records it from the forests of Malabar and Travancore, where he says it is tolerably common; also from the sides of the Neilgherries and in the Wynaad, and more rarely on the Eastern Ghauts about the latitude of Madras. In Burmah it has been procured at Thayetmyo.

**991. *Cuculus micropterus*, Gould, P. Z. S. 1837, p. 137; Jerd., B. Ind. i. p. 326, No. 203; Swinhoe, P. Z. S. 1871, p. 395; Blyth and Wald., B. Burm. p. 79; David et Oust. Ois. Chine p. 64; Hume and Dav., Str. F. vi. p. 156; Legge, B. Ceylon p. 228; Hume, Str. F. viii. p. 88; Oates, Str. F. x. p. 193; Oates, B. Br. Burm. ii. p. 104.** *Cuculus affinis* (A. Hay), Blyth, J. A. S. B. xv. p. 18; Blyth, B. Burm. p. 79; Wardlaw-Ramsay, Tweed. Mem. p. 671; Hume, Str. F. viii. p. 8. *Cuculus striatus*, (Drap.) apud. Jerd. i. p. 328, No. 204 —The INDIAN CUCKOO.

Upper parts, including the wings, dark ashy, purer on the forehead; crown, nape, sides of the head and neck, also the cheeks, ashy; chin, throat and breast grey; inner webs of quills barred with white; tail ashy brown, tipped with whitish, and with a subterminal broad dark band; all the feathers with white shaft spots, which become bars on the outermost ones; the edges of the centre feathers scolloped with rufous; abdomen, vent and sides of the body white, banded broadly throughout with black; upper tail coverts brown, tinged with ashy; under tail coverts white, with a few nearly obsolete bars. The young are dark brown; the upper surface is broadly tipped with rufous

and the head barred with rufous white. Bill dark horny black; legs yellow; irides brown.

*Length*—12·5 to 13 inches; tail 6·4 to 6·8; wing 7·5 to 8·5; tarsus 0·85; bill from gape 1·3.

*Hab.*—Central Asia, China, Cochin-China, and the Malay Peninsula. It occurs in the Indo-Burmese countries and the greater part of Peninsular India and Ceylon. Oates says it is distributed over Pegu both on the hills and in the plains. It extends to Assam and the Malay countries. Jerdon says it is rare in the South of India, but common in the North; rare on the Malabar Coast and in the Carnatic; it is also rare in Ceylon, but tolerably common in the jungles of Central India, as at Nagpore, Chanda, Mhow, and Saugor, and moderately common in Lower Bengal and on the Himalayas. Habits the same as other members of the genus.

### Gen. *Hierococcyx*, Muller.

Bill as in *Cuculus* but stouter, wider at gape and much deeper; wings with the 4th quill longest, the 5th subequal with the 2nd; tail nearly even, broad and barred; plumage barred.

**992. *Hierococcyx sparverioides* (Vigors), Jerd., B. Ind. i. p. 331, No. 207; Hume, *Nests and Eggs Ind. B.* p. 135; Blyth, *B. Burm.* p. 79; Hume, *Str. F.* iii. p. 80; Armstrong, *Str. F.* iv. p. 311; Hume and Dav., *Str. F.* vi. p. 137; Hume, *Str. F.* viii. p. 89; Scully, *Str. F.* viii. p. 256. *Cuculus sparverioides*, Vigors, *P. Z. S.* 1831, p. 173; David et Oust. *Ois. Chine*, p. 63. *Cuculus strenuus*, Gould, *B. Asia*, pl. viii.—The LARGE HAWK CUCKOO,**

Forehead, crown, occiput, nape, sides of the upper neck, head and hind neck dark ashy; back, scapulars, wing coverts, and tertiaries brown; primaries and secondaries brown, banded with white on their inner webs, and obscurely so on the outer; rump and upper tail coverts ashy brown, the latter barred and tipped paler; tail grey, crossed with 4—5 dark broad cross bars, the subterminal one rufous; tip whitish or pale rufous; chin ashy; throat white, streaked with ashy; under parts from the breast, including the under wing coverts, white, barred with brown; vent and under tail coverts pure white, with in some specimens some dark bars on the longest of the latter. The young have the upper plumage brown barred with rufous; the wings barred with rufous on both webs; chin ashy; throat and breast pale buff, streaked with brown, and the abdomen and vent barred, interruptedly, with brown; bill with the upper mandible dark brown; the lower greenish; irides yellow.

*Length.*—15 to 16 inches; tail 9; wing 8·5 to 9; bill from gape 1·4; females smaller.

*Hab.*—The Indo-Burmese countries, ranging into China, Amurland, and Malacca. Spread over a great portion of India, also over Pegu, Arracan, and

Tenasserim. It is found throughout the Himalayas and during winter in South India on the Neilgherries. It also occurs at Darjeeling. From the Neilgherries Mr. Davison is said to have obtained an egg from Mr. R. Morgan, which was perfectly white and moderately glossy. The question whether Hawk Cuckoos build their own nests is yet in doubt. Mr. Morgan (*Hume*) says he watched the bird build the nest and had then taken the eggs, which were four in number. Mr. Hodgson, however, attributes to them the habits of the Cuckoos, which lay their eggs in the nests of other birds.

**993. *Hierococcyx varius* (Vahl), *Ferd.*, *B. Ind.* i. p. 329, No. 329.**  
—THE COMMON HAWK CUCKOO,

Upper parts uniform ash grey, darker on the wings and their coverts; fore-neck and breast pale rufous, the feathers greyish mesially; abdomen and flanks white, barred with grey and rufous; vent and under tail coverts white, tail grey, tipped with white, crossed with 5—6 narrow undulating bands; and a broad dusky subterminal one; quills barred with white on their inner webs; chin white; throat greyish. Bill dusky; lower mandible yellowish; irides gamboge yellow.

*Length*.—13 to 13.5 inches; tail 6.75; wing 7; bill at front 0.8.

*Hab.*—Northern and Southern India, Bengal, and Ceylon; affects gardens, groves, avenues, &c. Lives like its congeners on caterpillars and other insects.

**994. *Hierococcyx nanus*, *Hume*, *Str. F.* v. p. 490; *Hume and Dav.*, *Str. F.* vi. pp. 157, 502; *Hume*, *Str. F.* viii. p. 88; *Oates*, *B. Br. Burm.* ii. p. 510.**—HUME'S HAWK CUCKOO.

The whole of the lower parts are white, tinged creamy on the lower throat and breast, and more feebly so on the middle of the abdomen and tibial plumes; all these parts with conspicuous black central stripes; chin, upper throat and lower tail coverts pure unmarked white; forehead, crown, occiput and nape deep brownish slaty; sides of the neck ferruginous, the feathers dark centred; nape similar, but the feathers feebly margined with pale ferruginous, and one or two of the feathers on each side white-tipped; entire mantle, wings and back deep brown; the feathers, some of them, very obscurely margined with dull ferruginous (showing that the birds are not quite adult), and spots of the same colour on the outer webs of the quills; the inner webs, except towards the tips of the primaries, with broad triangular buffy white bars, coalescing at the margin towards the bases of the feathers; tail tipped with sordid white, then an 0.8 subterminal blackish band, then an 0.6 to 0.8 pale grey-brown interspace; the next succeeding 0.5 blackish-brown band, cuspidate on its lower margin, then an 0.5 pale interspace, then an 0.45 dark bar, also cuspidate, on the lower margin, then an 0.5 interspace, and then another dark bar; the whole of which, as well as half of the last interspace, hidden by the upper tail coverts; the entire wing-lining and edge of the wing at the carpal joint uniform cream colour. (*Hume*.) Irides brown; the

lower mandible, gape and base of upper mandible greenish yellow; upper mandible and extreme tip of lower mandible dull black; eyelids, legs, feet and claws orange yellow. (*Davison*.)

*Length*.—About 11 inches; tail 5.5; wing 5.6; tarsus 7.5; bill from gape 1.1.

*Hab*.—Tenasserim, in the Southern portion of the division from Bankasoon to Tavoy and Nwalabo mountain. There is no record of its habits, which must be the same as those of other members of the genus.

**995. *Hierococcyx niscolor*** (*Hodgs.*), *Blyth, J. A. S. B.* xii. p. 943; *Ferd.*, *B. Ind.* i. p. 330, No. 206; *Hume, Str. F.* v. pp. 96, 347; *Hume and Davison, Str. F.* vi. p. 157; *Hume, Str. F.* viii. p. 88; *Oates, Str. F.* x. p. 193; *Oates, B. Br. Burm.* ii. p. 109.—HODGSON'S HAWK CUCKOO.

Upper parts, including the wing and their coverts, deep ashy; the rump and upper tail coverts tipped rather paler; inner webs of quills barred with white; tail ashy brown, tipped with rusty, with five narrow black bars (2 concealed), bordered by pale rufous and a broad subterminal black band; chin, sides of the head and neck like the back; lores whitish; throat and foreneck rufous white, streaked with grey; breast, abdomen and sides of the body bright rufous, the feathers centred with ashy; vent and under tail coverts white; bill horny black on upper mandible, pale green on lower; legs, feet and claws bright yellow; irides orange red.

*Length*.—11.5 inches; tail 6.1; wing 6.8; tarsus 0.8; bill from gape 1.2.

*Hab*.—British Burmah, in Tenasserim, Nepaul, and Malacca.

Nothing is known in regard to its habits.

### Gen. *Cacomantis*, *Muller*.

Cuckoos of small size and variable plumage, generally grey or dusky; plumage not barred in the normal adult state; tarsi less plumed than in *Cuculus*.

**996. *Cacomantis threnodes***, *Cab. et. Hein. Mus. Hein.* iv. p. 19; *Wald., Trans. Zool. Soc.* viii. p. 54; *Hume and Dav., Str. F.* vi. p. 158; *Hume, Str. F.* viii. p. 89; *Bingham, Str. F.* ix. p. 167; *Kelham, Ibis*, 1881, p. 391; *Oates, Str. F.* x. p. 193; *Oates, B. Br. Burmah.* ii. p. 111. *Polyphasias tenuirostris* (*Gray*), *apud. Ferd. B. Ind.* i. p. 335. *Polyphasias rufiventris*, *Ferd., Ibis*, 1872, p. 15. *Cacomantis passerinus* (*Vahl.*) *apud. Blyth and Wald., B. Burm.* p. 80. *Oloolygon tenuirostris* (*Gray*), *apud. Hume, Str. F.* iii. p. 80. *Cacomantis rufiventris*, *Armstrong, Str. F.* iv. p. 312; *Wardlaw-Ramsay, Ibis*, 1877, p. 458; *Anders., Yunnan Exped.* p. 587. *Cacomantis tenuirostris*, *David et Oust. Ois. Chine*, p. 62.—THE RUFOUS-BELLIED CUCKOO.

Head, neck, and upper breast clear ashy; back, scapulars, coverts, and wings brown, glossed with green; a white patch on the inner webs of the quills; rump and upper tail coverts dark ashy, most of the feathers tipped paler; tail



dark brown, tipped with white, the central feathers notched with white on both webs, the others barred with white on the inner webs; lower breast, abdomen, vent, under tail coverts, sides of the body and under wing coverts rufous which in some males extend up to the throat. The female has the whole upper plumage, wing coverts and tail ferruginous, closely barred with black, lower plumage rufescent white, closely and finely barred with brown. *Young* birds are like the females, but the head, neck, throat and breast are streaked and not barred with brown. Bill dark horny on the upper mandible, brownish orange on the lower; irides reddish brown. (*Oates*.)

*Length*.—9 inches; tail 4·9; wing 4·4; tarsus 0·7; bill from gape 0·9.

*Hab*.—The Indo-Burmese countries to Bengal. Found abundantly over the whole Province of Burmah.

**997. *Cacomantis nigra*, *Jerd.*, *Ibis*, ii. 1872, Plate 1; *Jerd.*, *B. Ind.* i. p. 333.**—The INDIAN PLAINTIVE CUCKOO.

Adult uniform dark ashy above, glossed with green; beneath pale ashy; vent and under tail coverts white; quills dusky, with a broad white band on the inner web of each feather; tail blackish, except the middle pair, all the feathers banded and tipped with white. Bill blackish, red at base beneath and at the gape; feet reddish yellow; irides ruby red or brownish red. (*Jerd.*)

*Length*.—9 inches; tail 4·5; wing 4·5; bill at front 0·6; tarsus 0·6.

*Hab*.—Nearly all over India in moist and woody countries. Abundant on the Malabar Coast, in the Wynaad, and the warmer slopes of the Neilgherries; rare in the Carnatic; on the eastern ghauts here and there; also in Central India, Lower Bengal, up to the foot of the N.-W. Himalayas. Common in Ceylon. Breeds on the Neilgherries in the nests of *Drymoipus inornatus*, the Common Wren Warbler, during September. The eggs, according to Hume, are elongated ovals, occasionally more or less-cylindrical. The shell is fine and smooth. The ground colour is a delicate pale greenish blue, blotched and spotted towards the large end with reddish or purplish brown and pale reddish purple. Size 0·78 to 0·81 × 0·53 to 0·57.

#### Gen. *Surniculus*.—*Lesson*.

Plumage black; tail even, or forked; outermost feathers short, the penultimate slightly the longest, and each lateral half curling outwards towards the tip; otherwise as in *Cacomantis*. (*Jerd.*)

**998. *Surniculus lugubris* (*Horsf.*), *Salvad. Ucc. Born.* 179, p. 63; *Blyth and Wald.*, *B. Burm.* p. 80; *Hume and Dav.*, *Str. F.* vi. p. 159; *Anders.*, *Yunnan Exped.* p. 587; *Legge*, *B. Ceylon*, p. 243; *Hume*, *Str. F.* viii. p. 89; *Oates*, *B. Br. Burm.* ii. p. 112. *Cuculus lugubris*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 179. *Pseudornis dicruroides*, *Hodgs.*, *J. A. S. B.* viii. p. 136. *Surniculus dicruroides*, *Jerd.*, *B. Ind.* i. p. 336, No. 210. —The BLACK FORK-TAILED CUCKOO.**

Upper parts glossy black, glossed green and blue; head subcrested; a few white feathers on the nape; tail glossy blue black, the outermost pair of feathers barred and tipped with white; the next pair with only a few white spots near the shaft and very narrowly tipped with white; primaries black; all except the second with a white spot on the inner web; tibial plumes spotted with white; upper tail coverts with some white specks occasionally; lower surface of the body dull black; inner wing coverts the same, with minute white specks. The young are black, and the plumage above and below is much spotted with white. Bill black; irides brown; legs plumbeous.

*Length*.—10 inches; tail 5·3 to 5·75; wing 5·5; tarsus 0·65; bill from gape 1·1.

*Hab.*—The Indo-Burmese countries, India generally, and Ceylon. Ranges into China, Siam and Cochin-China, and extends down the Malay Peninsula, to Sumatra, Java, and Borneo. It is common on the Malabar Coast, in the Wynaad, Central India, and at Darjeeling. In the Himalayas, Ceylon, Burmah, and Tenasserim, it is said to be not uncommon. Oates says it is found over the whole of British Burmah and Karenne.

Gen. **Chrysococcyx**.—*Boie*.

Bill as in *Cuculus*, but a little more depressed at the base and entire at tip; wings pointed; 2nd quill longer than the 4th; 3rd subequal with the 4th; feathers of the rump and upper tail-coverts soft; tarsi short, feathered.

**999. Chrysococcyx maculatus** (*Gm.*), *Blyth, B. Burm.* p. 80; *Wald., Ibis*, 1876, p. 345; *Wardlaw-Ramsay, Ibis*, 1877, p. 438; *Hume, Str. F.* viii. p. 89; *Bingham, Str. F.* ix. p. 167; *Oates, Str. F.* x. p. 193; *id., B. Br. Burm.* ii. p. 113. *Trogon maculatus, Gm., Syst. Nat.* i. p. 404; *Legge, B. Ceylon*, p. 238. *Chrysococcyx smaragdinus, Blyth, J. A. S. B.* xv. p. 53. *Chrysococcyx Hodgsoni, Moore, in Horsf. and Moore, Cat. Birds, Mus. E. I. Co.* ii. p. 705; *Jerd., B. Ind.* i. p. 338, No. 211; *David et Oust. Ois. Chine*, p. 62. *Chrysococcyx Schomburgki, Gould, P. Z. S.* 1864, p. 73. *Lamprococcyx maculatus, Hume and Dav., Str. F.* vi. pp. 161, 502.—The EMERALD CUCKOO.

Head, neck, and entire upper plumage, including the wings and tail, also the breast, emerald green, with a golden gloss; inner webs of quills marked with white, and the outer tail feathers with large white spots; lower breast and rest of the lower plumage white, crossed with bars of shining or metallic green. Bill yellow, tipped dusky or black; legs and feet brownish green; irides red brown. The young are variously marked; generally the forehead, crown, and nape are rufous, or barred with rufous.

*Length*.—7 inches; tail 3; wing 4·4; tarsus 0·5; bill from gape 0·85.

*Hab.*—The Himalayas to Ceylon. Found in the greater portion of Burmah and Tenasserim; also Arracan. Jerdon says it has been procured at Darjeeling and also in Central India.

**1000. *Chrysococcyx xanthorhynchus* (Horsf.), *Salvad, Ucc. Born.* p. 62; *Blyth, B. Burm.* p. 80; *Wardlaw-Ramsay, Ibis*, 1877, p. 459; *Hume, Str. F.* viii. p. 89; *Oates, Str. F.* x. p. 193; *id., B. Br. Burm.* ii. p. 114. *Cuculus xanthorhynchus*, *Horsf., Trans. Linn. Soc.* xiii. p. 179. *Cuculus malayanus*, *Raffles, Trans. Linn. Soc.* xiii. p. 286. *Chalcococcyx xanthorhynchus*, *Hume, Str. F.* ii. p. 191; iii. p. 81; *Hume and Dav., Str. F.* vi. pp. 161, 506. *Lamprococcyx malayanus*, *Hume and Dav., Str. F.* vi. p. 502; *Hume, Str. F.* viii. p. 89.—The VIOLET CUCKOO.**

Whole plumage brilliant violet purple, except on the abdomen, vent, under tail and under wing coverts, which are barred with white and greenish purple; outer tail feathers with large white spots on both webs. The *adult female* has the whole lower surface, also the lores, cheeks, ear coverts and sides of the neck white, closely barred with greenish bronze; head, neck, back, rump and upper tail coverts shining bronze, coppery on the head; forehead and superciliary region speckled with white; wing coverts bronze, edged with rufous; also the secondaries and tertiaries; primaries brown, glossed with greenish and edged with rufous, their inner webs with a broad streak of rufous along the basal two-thirds of the edge; centre pair of tail feathers uniform bronze green, tinged with blue near the tip; the next pair has on each web alternate triangular patches of greenish brown and rufous, these patches becoming less in extent on the lateral feathers, with the tip white; the outermost feathers are rufous with 4 black bars and a broad white tip. Bill orange yellow in the male; orange in the female; irides red; legs greenish brown. (*Oates.*)

*Length.*—6·5 inches; tail 3; wing 4; tarsus 0·6; bill from gape 0·75.

*Hab.*—The Malay Peninsula, Sumatra, Java, Borneo, the Phillipine Islands, and Cochin-China. Found in all parts of British Burmah, extending north to Cachar, and the hill tracts of Eastern Bengal and the Andaman Islands. It is found, according to Oates, in dense groves of trees, searching among the leaves for caterpillars.

**1001. *Chrysococcyx Limborgi*, *Tweed., P. Z. S.* 1877, p. 360; *Hume, Str. F.* vii. p. 319; viii. p. 89; *Bingham, Str. F.* ix. p. 168; *Oates, B. Br. Burm.* ii. p. 114.—The WHITE-COLLARED VIOLET CUCKOO.**

Like *C. xanthorhynchus*, but with a broad white collar on the upper back reaching to the sides of the neck. (*Oates.*) Bill yellow; legs rich green; irides red. (*Limborg.*)

*Length.*—6·5 to 7 inches; tail 3·1; wing 4; tarsus 0·55; bill from gape 0·8.

*Hab.*—Tenasserim.

#### Gen. *Coccystes*.—*Gloger.*

Head crested; nostrils basal, ovate; 4th quill longest; 3rd and 4th sub-equal; tail long, graduated; tarsi not plumed.

**1002. *Coccytes jacobinus*, Bodd., *Pl. Enl.* 872; *Levail O. A.* t. 208; *Hume, Nests and Eggs Ind. B.* p. 137; *Murray, Vert. Zool., Sind*, p. 117; *Oates, B. Br. Burmah* ii. p. 118; *Legge, B. Ceylon*, p. 216; *Hume, Str. F.* viii. p. 89. *Oxylophus jacobinus*, *Hume, Str. F.* iii. p. 81. *Coccytes melanoleucos*, (*Gmel.*), *Horsf. and Moore, Cat. B.* ii. p. 694; *Ferd., B. Ind.* i. p. 339, No. 210; *Murray, Hdbk. Zool., &c., Sind*, p. 131. *Leptosomus afer*, *Frankl., Proc. Zool. Soc.* 1831, p. 121. *Oxylophus serratus*, *Gray, Gen. B.* ii. p. 464.—THE PIED-CRESTED CUCKOO.**

Entire upper surface black with a greenish gloss; chin, throat, belly, vent, and under tail coverts white or fulvescent white; bases of the primaries white, forming a conspicuous wing patch; tail feathers broadly tipped white, the two middle narrowly; shoulders white; under wing coverts fulvescent white. Bill black; legs bluish; irides red brown.

*Length*.—13 inches; wing 5·5 to 5·75; tail 6·75 to 7; bill at front 0·75.

*Hab.*—Throughout India to Nepal. Common in Central and Southern India, Bengal, Upper Pegu and Ceylon, rare on the Malabar Coast. In Sind, Kutch, Kattiawar, Rajputana and North Guzerat, and in fact wherever it is found, it lays according to the breeding season of the various Babblers, in whose nests it deposits its eggs, from January to July. The eggs, like those of the *Malacocirci*, are a spotless sky blue, and highly glossy, round ovals, varying in length from 0·9 to 0·98 inch, and in breadth from 0·72 to 0·82 inch.

**1003. *Coccytes coromandus* (Linn.), *Ferd., B. Ind.* i. p. 341; *Hume, Nests and Eggs Ind. B.* p. 138; *Salvad., Ucc. Born.* p. 67; *Hume, Str. F.* iii. p. 82; *Blyth, B. Burm.* p. 81; *David et Oust. Ois. Chine*, p. 61; *Legge, B. Ceylon*, p. 249; *Hume and Dav., Str. F.* vi. p. 162; *Hume, Str. F.* viii. p. 89; *Scully, t. c.* p. 257. *Cuculus coromandus*, *Linn. Syst. Nat.* i. p. 171. — THE RED-WINGED CRESTED CUCKOO.**

Whole head and neck black; the chin, throat, and foreneck fulvous; collar round the neck white; upper parts of the body black, glossed with green; tail, and lesser wing coverts black, tinged with greenish blue, the tail tipped with fulvous white, increasing in extent towards the outer feathers; primaries, secondaries, and greater wing coverts deep ferruginous or chestnut, the tips dusky; tertiaries brown; under surface of the body fulvous white, changing to smoky brown on the vent, and dusky black on the under tail coverts; under wing coverts pale ferruginous; flanks greyish brown, with a slight rufescent tinge. The *young* have the upper parts glossed brown and the feathers are edged with rufous.

Bill black; legs plumbeous; irides red brown.

*Length*.—13 to 18 inches; tail 10; wing 6·4; tarsus 1·1; bill from gape 1·4.

*Hab.*—Generally spread throughout India, Ceylon, Burmah, and Malaya. Recorded from Siam, China, and Cochin China, Sumatra, Java, Borneo, and the Phillipine Islands. Occurs abundantly in Pegu and Tenasserim. It

is found in Malabar, the Carnatic, and Central India. It has also been obtained in Bengal. It is seen generally singly, flying from tree to tree. It utters a loud call note, which rings through the forest or topes of trees.

**Gen. Eudynamys.**—*Vig. and Horsf.*

Bill strong, thick, vertically deep, and hooked at tip; 4th quill longest; tarsi not plumed below the joint, flattened in front.

**1004. Eudynamys honorata**, (Linn.) Bodd. *Tabl. Pl. Enl.* 294, 586; *Lev. O. A.* t. 214. *Eudynamys orientalis* (Linn.), *Ferd., B. Ind.* i. p. 342, No. 214; *Cat. Hodgs. Coll. B. M.* p. 119; *Murray, Hdbk. Zool., &c., Sind*, p. 132; *id., Vert. Zool. Sind*, p. 117.—THE INDIAN KOEL.

*Male*.—Entirely black with a greenish gloss; bill pale greenish; irides fine crimson; legs slaty blue.

*Length*.—15·5; wing 7·5; bill at front 1.

*Female*.—Dusky brown with a greenish tinge, spotted with white on the head, scapulars, and wings coverts; quills, tail, and entire under parts, including the under wing and thigh coverts, barred with white.

*Length*.—17 to 17·5 inches; wing 7·75 to 8; tail 8

*Hab*.—Throughout India, extending to Nepaul, Ceylon, Burmah, Malayana and the Phillippines; common in the Deccan and Concan, Kutch, Guzerat and Kattiawar. In Sind it is rare, and occurs only during the rains, laying its eggs in the nest of the common crow, *Corvus splendens*.

**1005. Eudynamys malayana**, *Cab. et Hein.* iv. p. 52; *Wald., Ibis*, 1869, p. 339; 1873, p. 303; *Salvad, Ucc. Born.* p. 68; *Hume, Str. F.* ii. p. 192; iii. p. 82; *Blyth and Wald., B. Burm.* p. 81; *Wald., Trans Zool. Soc.* ix. p. 162; *David et Oust. Ois Chine*, p. 61; *Hume and Dav., Str. F.* vi. p. 162; *Hume, Str. F.* viii. p. 89; *Bingham, Str. F.* ix. p. 168; *Kelham, Ibis*, 1881, p. 362. *Eudynamis chinensis* (*Cab. et Hein.*), *apud Blyth, B. Burm.* p. 81.—THE MALAYAN KOEL.

Whole plumage black glossed with blue. The female has the head and neck streaked with black and rufous, the lower surface with black and rufous undulating lines; wings the same. Bill dull green, dusky at gape; irides crimson.

*Length*.—17 inches; tail 8; wing 8; tarsus 1·3; bill from gape 1·6.

*Hab*.—British Burmah, hill tracts of Eastern Bengal, and Malay Peninsula.

**Sub-Family.**—PHÆNICOPHÆINÆ.

Bill moderate or longish; ridge curved; nostrils linear; orbital region generally naked; wings short; tail long and graduated; plumage decomposed and hair-like. Food, chiefly insects.

Gen. **Rhinortha**.—*Vigors*.

Bill much compressed, curved both at the culmen and lower mandible; wings short and rounded; tail lengthened, graduated.

**1008. *Rhinortha chlorophæa*** (*Raffles*), *Blyth, B. Burm.* p. 82; *Hume and Dav., Str. F.* vi. p. 166; *Hume, Str. F.* viii. p. 89; *Oates, B. Br. Burmah* ii. p. 120. *Cuculus chlorophæus*, *Raffles, Trans. Linn. Soc.* xiii. p. 288. *Rhynortha chlorophæa*, *Salvad, Ucc. Born.* p. 69.—The SMALL GREEN-BILLED MALKOHA.

Forehead, crown, nape, sides of the head and neck, back and wings chestnut, deeper on the wings, the quills of which are tipped dusky; rump and upper tail coverts smoky brown, or blackish, tipped with white, the whole surface, except near the white tips, closely barred with yellowish brown; cheeks, chin, throat and breast pale chestnut or buff, passing to dusky on the lower breast; remainder of the lower plumage smoky grey, obsoletely barred darker; under wing coverts chestnut. *The female* has the forehead, crown, nape, sides of the head and neck, grey; the remainder of the upper plumage, bright chestnut, the quills tipped dusky, the tail tipped white, with a subterminal black bar; chin, throat, and upper breast grey, paler than the head, and in some birds tinged with fulvous; lower breast fulvous, deepening on the abdomen and sides of the body; vent and under tail coverts dull chestnut; under wing coverts chestnut. (*Oates*.) Legs and feet dark plumbeous; claws black; bill apple-green; orbital skin pale green inclining to bluish; irides dark brown. (*Davison*.)

*Length*.—13 inches; tail 7; wing 4.5; tarsus 1.1; bill from gape 1.4. The female is of the same size.

*Hab*.—Malay Peninsula, to Sumatra, Java, and Borneo. In Tenasserim it is found as far north as Lemyne, a village about a day's march of Yea. According to Davison it frequents the densest parts of the evergreen forests and cane brakes and densest of scrub jungle. In all its habits it resembles *Rhopodytes*, but has quite a different note from it.

Gen. **Rhopodytes**.—*Cab. et Hein.*

Bill much compressed throughout and curved; nostrils basal, pierced in a slight depression in the horny substance; wing short, rounded, with the 4th, 5th, and 6th quills nearly equal and longest; tail much lengthened, graduated; hallux short; claws sharp.

**1007. *Rhopodytes tristis*** (*Lesson*), *Armstrong, Str. F.* iv. p. 312; *Hume and Dav., Str. F.* vi. p. 162; *Hume, Str. F.* viii. p. 89; *Bingham, Str. F.* ix. p. 168; *Oates, Str. F.* x. p. 190; *id., B. Br. Burm.* ii. p. 121. *Melias tristis*, *Less. Tr. d'Orn.* p. 132; *id., Voy. Belang.* p. 231; *Ois. pl. i.* *Zanclostomus tristis*, *Jerd., B. Ind.* i. p. 345; *Hume, Nests and Eggs Ind. B.*

p. 142; *Blyth, B. Burm* p. 81; *David et Oust. Ois. Chine*, p. 58; *Oates, Str. F. v.* p. 144.—The LARGE GREEN-BILLED MALKOHA.

Upper plumage dark greenish grey, the head and neck paler grey; the bases of the feathers on the forehead and superciliary region black; cheeks and throat whitish, with black shafts; wings, upper tail coverts, and tail dark shining green, the feathers of the latter tipped broadly with white; lores blackish; front of neck and breast grey with a russet tinge and dark shafts; under surface of the body smoky brown with a greenish tinge; under wing and under tail coverts the same. Bill bright apple-green; nude orbital region crimson; irides dark brown; legs slaty. In the female the orbital nude space is blood-red; irides paler.

*Length*.—23 to 24 inches; tail 16; wing 6.5; tarsus 1.3; bill from gape 1.6.

*Hab.*—The Himalayas and Sikkim in the warmer valleys, ranging into Northern and Central India, Bengal, the Northern Circars, Assam, Burmah, Arracan and Malacca. In Burmah, Oates says, it is common all over Pegu, both in the hills and plains. In Tenasserim it extends as far as Mergui. In the Thoungyeen Valley it is said to be common; affects orchards as well as forests; wanders about solitary or in pairs, picking off and eating grasshoppers, caterpillars, and other insects from the branches and leaves of trees. Breeds in Pegu, according to Oates, from June to August. The nest, he says, is a slight structure constructed of a few dead twigs and leaves, and placed in a bush or a leafy bamboo. Eggs chalky white, and two in number. Jerdon says the egg he got was of a long oval form.

**1008. *Rhopodytes diardi* (Lesson), *Hume and Dav.*, *Str. F.* vi. p. 163; *Hume, Str. F.* viii., p. 89. *Melias diardi*, *Less.*, *Tr. d'Orn.* p. 132. *Zanclostomus diardi*, *Blyth, B. Burm.* p. 81.—DIARD'S GREEN-BILLED MALKOHA.**

Forehead, crown, nape, upper back, sides of the head and neck, ashy grey; remainder of upper plumage metallic green tinged with blue; tail tipped with white; chin, throat and breast of the same colour as the head but paler, becoming dusky on the abdomen and sides of the body, and smoky brown on the vent and under tail coverts. Bill pale green; legs and feet dark plumbeous green; irides dark brown; nude orbital space crimson.

*Length*.—14 inches; tail 9; wing 5; tarsus 1.2; bill from gape 1.4.

*Hab.*—Malay Peninsula, Sumatra and Cochin-China. Has been found in Tenasserim from Mergui southwards. Mr. Davison says its habits and notes are not unlike those of *R. tristis*.

**1009. *Rhopodytes sumatranus* (Raffles), *Salvad.*, *Ucc. Born.* p. 73; *Hume and Dav.*, *Str. F.* vi. p. 164; *Hume, Str. F.* viii. p. 89; *Kelham*,**

*Ibis*, 1881, p. 393; *Oates, B. Br. Burm.* ii. p. 123. *Cuculus sumatranus*, *Raffles, Trans. Linn. Soc.* xiii. p. 287.—THE SUMATRAN GREEN-BILLED MALKOHA.

Like *Rhopodytes diardi* but with the centre of the abdomen, vent and under tail coverts deep chestnut; facial skin bordered above by a very narrow white band. It is also considerably larger than *R. diardi*.

*Length*.—16 inches against 14; wing 6·2 against 5·0; tarsus 1·5 against 1·2; bill from gape 1·5 against 1·4; tail 9·0.

Legs and feet dark plumbeous green; bill pale green; irides dark brown; bare orbital space clear orange, palest round the eye, shading to blood-red at posterior angle. (*Dav.*)

*Hab.*—Malay Peninsula, Sumatra, Bangkok, Java, and Borneo. Mr. Davison found it in Tenasserim in the secondary scrub, with which a great portion of the island of Mergui is covered, where he says it is quite common. A nest of this species was found by Lieut. Kelham near Perak on the 16th March. The nest, according to him, was a loosely-put-together structure of dry twigs slightly cup-shaped, and built at about 5 feet from the ground in a bush standing on the edge of a jungle path. The eggs were two in number, white, 1·6 inch in length.

**1010. *Rhopodytes viridirostris*, *Jerd. Ill. Ind. Orn. Pl.* 3 *id.*, *Jerd. B. Ind.* i. p. 346. *Phœnicophaeus Jerdoni*, *Blyth, J. A. S. B.* p. 3; *Hume, Str. F.* vi. p. 163.**—THE SMALL GREEN-BILLED MALKOHA.

Upper parts dusky cinereous, glossed with greenish; wings and tail black, glossed with greenish, the tail feathers tipped with white; under surface of the body greyish, tinged with fawn, paler on the abdomen; chin and throat with a few black feathers. Bill bright apple green; nude orbital space cobalt blue; irides blood red; legs blackish green.

*Length*.—15 inches; tail 10; wing 5·25; bill at front 1; tarsus 1·3.

*Hab.*—South India and Ceylon; frequents thick bamboo and bushy jungles, also groves and avenues, feeds on various large insects, grasshoppers, &c. *Phœnicophaeus pyrrhocephalus* occurs in Ceylon and will probably be found to occur in South India.

### Gen. **Rhamphococcyx**.—*Cab. et Hein.*

General characters similar to *Rhopodytes*, but the nude orbital space larger, and the bill wider and deeper.

**1011. *Rhamphococcyx erythrognaethus* (*Hartl.*), *Salvad. Ucc. Born.* p. 74; *Hume, Str. F.* viii. p. 89; *Kelham, Ibis*, 1881, p. 393; *Oates, B. Br. Burm.* ii. p. 124. *Phœnicophaeus erythrognaethus*, *Hartl., Verz. Mus. Brem.* p. 95. *Phœnicophaeus erythrognaethus*, *Blyth, B. Burmah*, p. 81. *Phœnicophaeus erythrognaethus*, *Hume and Dav., Str. F.* vi. p. 165.**—THE GREATER RED-BILLED MALKOHA.



Top and sides of the head, nape, a mandibular stripe, and point of the chin ashy grey; back, scapulars, greater, median and lesser wing coverts, also the primaries and secondaries metallic green, the primaries with a bluish tinge; sides of the neck and breast chestnut, changing gradually to smoky or dusky black towards the vent; thighs smoky black; under tail-coverts dull ferruginous; under wing coverts greenish; tail metallic green, the terminal third deep ferruginous. "Bill with the upper mandible pale green above and dark maroon red at base below the nostril; lower mandible to gonys, dark maroon red, the fore part dark greenish; legs and feet dark plumbeous; nude facial skin red. Irides bluish, yellow in the female." (*Davison*.)

*Length*.—19 inches; tail 10·5; wing 6·8; tarsus 1·65; bill from gape, 1·8.

*Hab*.—Malay Peninsula, Sumatra, Bangka, Borneo, and British Burmah. *Davison* found it in Tenasserim, where he says it frequents open forests, gardens, and thick secondary scrub.

#### Gen. *Zanclostomus*.—*Swains*.

Bill much compressed throughout, culmen curved, wings short and rounded; tail lengthened.

**1012. *Zanclostomus javanicus* (*Horsf.*), *Salvad.*, *Ucc. Born.* p. 75; *Blyth, B. Burm.* p. 81; *Hume and Dav.*, *Str. F.* vi. p. 167; *Hume, Str. F.* viii. p. 89. *Phœnicophaus javanicus*, *Horsf.*, *Trans.*, *Linn. Soc.*, xiii. p. 178.—The LESSER RED-BILLED MALKOHA.**

Top and sides of the neck ashy grey, tinged with fulvescent on the forehead; lores, cheeks, chin, throat, foreneck, and breast chestnut, deeper chestnut on the vent and under tail-coverts; back, scapulars, wings and their coverts, and tail metallic green, tinged with blue, the tail feathers tipped white; abdomen grey, with a fulvescent tinge; flanks and under wing coverts ashy grey.

Bill coral red; facial skin blue; irides brown; legs and feet plumbeous.

*Length*.—18 inches; tail 11; wing 5·8; tarsus 1·3; bill from gape 1·5.

*Hab*.—Malay Peninsula, Sumatra, Java, and Borneo; also Tenasserim from Tavoy southwards. Nothing is known of its habits.

#### Sub-Family CENTROPODINÆ, *Bp.*—COUCALS OR CROW PHEASANTS.

Bill strong, deep, compressed; wings rounded; tail long, graduated; tarsi long and scaled; hallux lengthened in some.

#### Gen. *Centrococcyx*.—*Mlliger*.

Bill well curved, high at base; claw of the hallux lengthened, nearly straight.

**1013. *Centrococcyx maximus*, *Hume, Str. F.* vol. i. 454; vi. 169; *Murray, Vert. Zool. Sind*, p. 118.—The CROW PHEASANT.**

Head, neck, lower back, upper tail coverts and entire under parts richly empurpled black, duller towards the vent; feathers of the forehead bristly, and those on the neck and breast with spiny shafts; tail dusky black with a greenish gloss; wings deep rufous bay or dark red. Bill black; irides crimson; legs black.

*Length*.—19 to 20 inches, wing 9 to 10; tail 10 to 10.5; bill at front 1.25.

*Hab*.—Sind, Punjab, N.-W. Provinces and Burmah. Hume (*S. F.* vol. vi. page 170) says it is not yet possible to define accurately the limits of *rufipennis*, *maximus* and *intermedius*. *Rufipennis*, he says, appears to be a South and Central Indian species; *maximus*, Western and N.-Western continental India; and *intermedius* Eastern continental India and the whole of Burmah.

**1014. *Centrococcyx rufipennis* (Illiger.), *Ferd.*, *B. Ind.* i. p. 348, No. 217; *Str. F.* i. p. 453; *Hume, Nests and Eggs Ind. B.* p. 142.—**The COMMON COUCAL OR CROW PHEASANT.

Whole head, neck, lower back, upper tail-coverts and under surface of the body rich black, with a purplish gloss; tail glossed with green; upper back and wings, deep chestnut. Bill black; irides crimson; legs black.

*Length*.—19 to 20 inches; tail 10; wing 7; bill at front 1.3; tarsus 2; hind claw 1. The *young* vary much in plumage, generally the upper parts are barred with black and rufous and the lower with dusky and fulvous white; the tail is also banded with greyish.

*Hab*.—India generally, frequenting wooded and cultivated localities, especially along the banks of rivers and on the edges of cultivation, where it captures mice, snakes, worms, rats, lizards, and other insects, upon which it feeds. This is the diet of all the members.

All the species build a large, globular, open, or domed nest in the middle of thick, thorny bushes or trees. The nest is usually made of dry sticks or twigs lined with a few green leaves. The hole for entrance and exit is made on one side. June to August are the months in which they lay. The eggs are from 2 to 5 in number, oval, and measure from 1.3 to 1.55 inch in length, and from 1.12 to 1.25 inch in breadth. In texture they are coarse and chalky and of a dull white colour, sometimes with a pale yellowish glaze.

**1015. *Centrococcyx intermedius*, *Hume, Str. F.* i. p. 454; *Hume and Dav.*, *Str. F.* vi. p. 168; *Hume, Str. F.* viii. p. 89; *Bingham, Str. F.* ix. p. 169; *Oates, B. Br. Burm.* ii. p. 126. *Centropus rufipennis*, *apud Blyth and Wald.*, *B. Burm.* p. 81. *Centropus eurycercus apud Wald. and Blyth, B. Burm.*, p. 82. *Centrococcyx eurycercus, apud Hume, Str. F.* iii. p. 83; *Armstrong, Str. F.* v. p. 312. *Centropus intermedius, Oates, Str. F.* v. p. 145.—**The BURMESE COUCAL.

Whole head, neck, upper and lower back, rump and entire under surface black, glossed with purple, the shafts rigid and spiny; middle of back and

wings, bright chestnut; upper tail coverts glossy black, the feathers stiff; under wing coverts black, crossed with rufous bars. Young birds are much barred, the plumage unglossed and more dusky throughout, as in the other species. Bill black; irides crimson; legs and claws black.

*Length*.—19 inches; tail 10; wing 7·5; tarsus 2·2; bill from gape 2·8.

*Hab*.—The Indo-Burmese Countries to Eastern Bengal. Habits the same as other members of the genus.

**1016. *Centrococcyx bengalensis* (Gmel.),** *Wald., Trans. Zool. Soc.* viii. p. 59; *Hume, Str. F.* iii. p. 84; viii. p. 89; *Oates, Str. F.* x. p. 196; *Kelham, This*, 1881, p. 395; *Oates, B. Br. Burm.* p. 127. *Cuculus bengalensis*, *Gm., Syst. Nat.* i. p. 412. *Centropus bengalensis*, *Ferd., B. Ind.* i. p. 350, No. 218; *Hume, Nests and Eggs Ind. B.* p. 144; *Blyth, B. Burm.* p. 82; *David et Oust. Ois. Chine*, p. 59; *Oates, Str. F.* v. p. 146; *Hume and Dav., Str. F.* vi. p. 171; *Gammie, Str. F.* v. p. 385; *Bingham, Str. F.* ix. p. 169.—The LESSER COUCAL.

Whole head, neck and lower plumage black, glossed with purple, the shafts glistening black; wings, scapulars and back pale-chestnut, the quills tipped with dusky, and the feathers of the back and scapulars, also the coverts, with yellowish shaft-stripes; rump and upper tail coverts bluish-black; tail black, tipped narrowly with yellowish white; under wing coverts pale chestnut.

In winter the plumage above is edged with rufous, and the back and scapulars have yellowish shaft-stripes; the under-surface is barred with black and fulvous, and the tail tipped with yellowish-white. Bill black; irides brownish yellow; legs and feet plumbeous.

*Length*.—14·5 to 15·5 inches; tail 7·5 to 8·5; wing 5·3 to 6·5; tarsus 1·8; bill from gape 1·3.

*Hab*—Malay Peninsula, the Indo-Burmese Countries and Arracan. Spread throughout most parts of India. Occurs on the Eastern Ghauts, Mysore, Central India, Upper and Lower Bengal, and in the sub-Himalayan region. In British Burmah it is also widely spread. It has also been found in Karennee. Oates says it is more abundant in the grassy plains of southern Pegu than elsewhere, and is also found in considerable numbers in Arracan and in Tenasserim. It has a preference for grass lands. Nidification and habits like other members of the genus.

#### Gen. **Taccocua**, Lesson.

Bill short, or of moderate length, much compressed; culmen arched. Culmen or gonys straight or slightly concave; nostrils bordered on their upper edge with a tuft of bristly feathers; 3rd and 4th quills nearly equal and longest; tail long, graduated; plumage of the head and superciliary region bristly, of the body stiffish.

**1017. *Taccocua Leschenaulti* (Less.), *Ferd.*, *B. Ind.* i. p. 352; *Hume, Str. F.* v. p. 218. *Zanclostomus sirkeer*, *Ferd.*, *Cat.* 230; *id.*, and *Suppl. Cat.* 230; *Hume, Nests and Eggs Ind. B.* p. 145.—The SOUTHERN SIRKEER.**

Upper surface of the body pale earthy-brown, the feathers of the head inclining to ashy; the shafts, also those of the neck and breast, glistening black; upper tail coverts long; lateral tail feathers dark-brown and broadly tipped with white; throat whitish; foreneck and breast ashy, tinged with ferruginous; abdomen dark ferruginous. Bill cherry red, yellowish at tip; feet plumbeous; irides reddish brown.

*Length*.—15 to 15·5 inches; wing 5·5 to 5·75; tail 8·0.

*Hab.*—Southern India on the Neilgherries, also on the Eastern Ghauts and in the Deccan, frequenting grassy slopes near jungle at from 5,000 to 6,000 ft. elevation. Feeds chiefly on the ground. Nest similar to that of a crow-pheasant. Breeds in March. Eggs 2—3, white.

**1018. *Taccocua sirkeer*, Gray, *Ill. Ind. Zool.* pl. 28; *Ferd.*, *B. Ind.* i. p. 353, No. 220; *Murray, Str. F.* v. p. 219; *id.*, *Hdbk. Zool.*, *Sc.*, *Sind*, p. 132; *id.*, *Vert. Zool. Sind*, p. 118; *Hume, Nests and Eggs Ind. B.* p. 145. *Centropus cuculoides*, *Smith, J. A. S. B.* x. p. 658.—The BENGAL SIRKEER**

Head, neck, sides of the face, entire upper parts, including upper tail coverts and tail sandy brown with a slight satiny sheen; barbs of the feathers of the forehead, crown, lores and sides of the face very lax and with stiff bristly black shafts. Eye-lashes also with black bristles, which are basally white. Chin yellowish brown, the feathers black-shafted; throat, sides of the neck and breast concolorous with the back, the feathers lax and black-shafted; scapulars the same. Primaries and secondaries plain sandy brown on their outer webs, their inner webs slightly darker, their shafts dark brown. Secondaries and tail feathers with obsolete bars. Lower breast, abdomen, flanks, tibial plumes, under wing coverts and vent ferruginous; under tail coverts brown, tinged with ferruginous. Bill cherry red, the tip yellowish; orbits purplish. Legs dusky greenish.

*Length*.—17 inches; wing 5·6 to 6·2; tail 9·2 to 9·5; bill from gape 1·5.

*Hab.*—Sind (Jacobabad), Punjab, N.-W. Provinces, Bengal, Kutch, Concan, Deccan, and Central India. The Bengal Sirkeer lays from May to August; builds a nest similar to that of a crow-pheasant and in similar situations. Eggs 2 in number, dull glossless white, of a chalky texture, stained with a yellowish glaze; size 1·25 to 1·45 inch × 1·02 to 1·1 in breadth.

**1019. *Taccocua infuscata*, Blyth, *J. A. S. B.* xiv. p. 200; *Ferd.*, *B. Ind.* i. p. 353. *Taccocua affinis*, *Blyth, J. A. S. B.* xv. p. 19; *Ferd.*, *B. Ind.* p. 354; *Hume, Nests and Eggs Ind. B.* p. 146.—The NORTHERN SIRKEER.**

Above dusky brown, washed with green, the feathers black-shafted ; beneath paler, slightly ferruginous on the neck and breast ; abdomen and tibial plumes deep ferruginous. Bill cherry red, yellowish at tip ; feet plumbeous ; irides reddish brown.

*Length*.—19 inches ; tail 10 ; wings 6·5 ; tarsus 1·6.

*Hab.*—Lower regions of the Himalayas, Nepal and Sikkim. Habits similar to the other members.

### Family CAPITONIDÆ.—BARBETS.

Bill stout, somewhat conic, inflated at the sides, moderately long or short, wide at the base and more or less compressed at the tip ; base of upper mandible continued backward to the gape and furnished at base with numerous stiff bristles, which project forward. Some African species have the mandibles denticulated and grooved at the sides ; wings and tail short, the latter even, or nearly so ; tail feathers 10 in number ; toes in pairs. Plumage gay, and in nearly all the species green is the predominant colour. They breed in holes of trees, and lay from two to four white eggs. Food, fruits and berries. (*Ferd.*)

#### Gen. *Megalæma*, G. R. Gray.

Bill nearly as long or slightly longer than the head, more or less wide at the base and compressed at the tip ; culmen slightly arched ; upper mandible somewhat overlapping the lower one ; gape wide ; feet zygodactyle. Habits arboreal, frequenting forests, groves, and tree jungle.

**1020. *Megalæma marshallorum***, Swinhoe, *Ann. Nat. Hist. Ser.* 4 ; vi. p. 348 ; *Blyth and Wald.*, *B. Burm.* p. 73 ; *Wardlaw-Ramsay*, *Ibis*, 1877, p. 457 ; *Hume*, *Str. F.* viii. p. 88 ; *Scully*, *Str. F.* viii. p. 250 ; *Oates*, *B. Br. Burm.* ii. p. 129. *Bucco grandis*, *Gould*, *Cent. Him. Birds* pl. 41. *Megalaima grandis*, *Hume*, *Nests and Eggs Ind. B.* p. 128 ; *Hume and Dav.*, *Str. F.* vi. p. 150. *Megalæma virens* (*Bodd*), *apud. Ferd.*, *B. Ind.* i. p. 309 ; *Marsh.*, *Mon. Capit.* pl. xvi. (part).—THE GREAT INDIAN BARBET.

Whole head, neck all round, including chin and throat, violet blue ; a yellow collar on the hind neck immediately following the violet blue ; back, scapular, median and lesser wing coverts and breast coppery or bronze brown ; primaries and their coverts black, edged with blue ; secondaries brown on the inner webs and green tinged with coppery on the outer ; tail bluish green ; under tail coverts crimson ; abdomen bluish, changing to green towards the vent ; flanks streaked green and yellowish. Bill yellow, dusky at the edge of upper mandible ; irides brown ; legs greenish horny.

*Length*.—12 to 13 inches ; tail 4 to 4·5 ; wing 5·5 to 5·75 ; tarsus 1·25 ; bill from gape 2·3.

*Hab.*—The Himalayas, hill tracts of Eastern Bengal, Arracan, and British Burmah, on the Karin hills east of Tounghoo. Breeds in the Himalayas from

Bhootan to Cashmere, at elevations of from 4,000 to 6,000 feet, from the middle of May to the middle of July. Nests made in holes of trees excavated by the parents. Eggs, 3—4, pure white, from 1·25 to 1·48 inch in length and from 0·89 to 1·05 in breadth.

**1021. *Megalæma virens* (Bodd.), Swinhoe, P. Z. S. 1871, p. 391; Dav. et. Oust. Ois. Chine, p. 56; Hume and Dav., Str. F. vi. p. 150; Hume, Str. F. viii. p. 88; Bingham, Str. F. ix. pp. 165, 473. *Bucco virens*, Bodd., Tabl. Pl. Enl. p. 53. *Bucco grandis*, Gm., Syst. Nat. i. 408.—The GREAT CHINESE BARBET.**

Like *Megalæma marshallorum*, but without the yellow collar on the hind neck, and the head is a duller blue. Bill yellow, horny at the tip; irides dark brown; legs and feet dirty green.

*Length*.—13 to 13·3 inches; tail 4·6; wing 5·8; tarsus 1·2; bill from gape 2·1.

*Hab*.—China, and Tenasserim in the neighbourhood of Pahpoon. Breeds in Tenasserim, where Capt. Bingham found the eggs in February and March. Eggs pure white, 2—3 in number.

**1022. *Megalæma mystacophanus* (Tem.), Marsh., Mon. Capit. pl. xix.; Wald. in Blyth's B. Burm. p. 74; Tweed, Ibis, 1877, p. 299; Hume and Dav., Str. F. vi. p. 152; Hume, Str. F. viii. p. 88. *Bucco mystacophanus* Tem., Pl. Col. 315. *Chotorea mystacophanus*, Oates, B. Burm. ii. p. 130.—The GAUDY BARBET.**

Upper surface of the body including the tertiaries green, glistening on the nape and upper neck; lower surface dull green; inner webs of quills dark brown, outer webs the same and margined with green; forehead, forecrown and a patch on the nape golden yellow; lores, hind crown, middle of nape, chin, throat and a small spot on each side of the neck scarlet; superciliary streak black; cheeks and a broad band across the foreneck blue; tail bluish below. Bill black; legs and feet horny green; irides deep brown.

*Length*.—9 inches; tail 2·5; wing 4; tarsus 1; bill from gape 1·7.

*Hab*.—The Malay Peninsula, Sumatra, Borneo and Tenasserim in British Burmah, where it is found, according to Oates, from the extreme south up to Nwalabo mountain and Tavoy, affecting the evergreen forests.

**1023. *Megalæma Hodgsoni*, Bonap., Cons. Av. i. p. 144; Wald., P. Z. S. 1866, p. 540; Marsh., Mon. Capit. pl. xxxvi.; Hume, Nests and Eggs Ind. B. p. 129; id., Str. F. iii. p. 75; Blyth and Wald., B. Burm. p. 73; Anderson, Yunnan Exped. p. 583; Hume and Dav., Str. F. vi. p. 151; Hume, Str. F. viii. p. 88; Oates, t. c. p. 166; Scully t. c. p. 251; Bingham, Str. F. ix. p. 165. *Megalæma lineata*, apud Ferd., B. Ind. i. p. 309, No. 192. *Cyanops Hodgsoni*, Oates, B. Burm. ii. p. 132.—The LINEATED BARBET.**

Upper surface of the body, including the wing coverts, tertiaries, tail and outer edges of the primaries and secondaries bright green; back the same but each feather streaked with pale whitish brown; head brown, each feather with a whitey brown tip, those on the nape streaked with the same; chin and throat white; sides of the head and of the neck, also the breast and upper abdomen, brown, the feathers with a mesial whitey brown streak; flanks, lower abdomen, vent and under tail coverts pale green; inner webs of primaries and secondaries black, some of the earlier primaries margined with pale brown terminally.

Bill flesh-coloured, paler at gape; iris brown; orbital skin and legs deep yellow.

*Length*.—10·5 inches to 11·3 inches; tail 3 to 3·5; wing 5·25; tarsus 1·1; bill from gape 1·7.

*Hab*.—The Indo-Burmese countries to the base of the Himalayas in the lower hills and plains, not ascending the hills above 1000 or 2000 feet. It is found in Dacca in Eastern Bengal, Assam, Sylhet, the Sikkim Terai and Nepaul. In Burmah, Oates says, it is found abundantly in all the forests, except in the extreme south of Tenasserim. According to Hodgson it breeds in the valley of the lower regions of Nepaul. It begins to lay about April. It excavates a hole in the trunk of some decayed tree about 16 inches deep, and in it lays 3—4 pure white eggs, which, Hume says, are figured as broad ovals considerably pointed towards one end, and measure 1·3 × 1·98 inch.

**1024. *Megalæma caniceps* (Frankl.),** *Jerd. B. Ind.* i. p. 310, No. 193; *Hume, Nests and Eggs Ind. B.* p. 129. *Bucco caniceps, Franklin, P. Z. S.* 1831, p. 147.—THE COMMON GREEN BARBET.

Like *M. lineata*, but the foreneck and breast uniform brown with pale mesial streaks; head, neck and lower surface brown; the throat dusky brown, these parts very faintly streaked paler; upper surface green as in *M. lineata*, the streaks very faint; wing coverts and tertiaries tipped with white. Bill pale orange brown; irides red brown; orbital skin dull orange.

*Length*.—10·5 inches; wing 5; tail 3·5; tarsus 1·1; bill at front 1·2.

*Hab*.—The Eastern Ghauts, Central and Northern India, Guzerat, Oudh and Bengal. Found in wooded and well-watered districts. Lays in March and April. Eggs 3—4 in number, oval, dull white and slightly glossy.

**1025. *Megalæma inornata*,** *Wald., Ann. and Mag. Nat. Hist.* 1870, v. p. 219; *Jerd., B. Ind. i. Suppl.* p. xlvii.; *Str. F.* iii. pp. 401, 459; *Marsh., Mon. Capit.* pl. xxviii.—THE MALABAR GREEN BARBET.

Chin, throat, breast and upper portion of abdominal region uniform pale brown, the shafts faintly paler. Upper surface as in *caniceps*, the terminal spots on the wing coverts and tertiaries almost wanting. Length similar to that of *caniceps*. Bill at front 1·5 inch; wing 5·2; tail 3·5; tarsus 1·1.

*Hab*.—Malabar, Coorg and Khandeish.

**1026. *Megalæma viridis*, Gmel., Syst. Nat. i. p. ; Jerdon, Ill. Ind. Orn. pl. 26; id., B. Ind. i. p. 311, No. 194; Hume, Str. F. i. p. 419; iv., p. 319.—The SMALL GREEN BARBET.**

Similar to *M. caniceps*, but is devoid of the specklings on the wing coverts and lineations on the back; the head and nape also are scarcely lineated; throat whitish. Bill horny brown; irides red brown; orbital skin brown; legs plumbeous.

*Length*.—8 inches; tail 2·75; wing 4; bill at front 0·9.

*Hab*.—South India, the Neilgherries and Malabar Coast. Breeds on the Neilgherries in April and May. Eggs pure white, a little glossy, 3—5 in number.

#### Gen. *Cyanops*, Bonap.

Bill shorter than in *Megalæma*; head with bright colours; sides of the face blue.

**1027. *Cyanops asiatica* (Lath.), Jerd., B. Ind. i. p. 313, No. 195; Hume, Nests and Eggs Ind. B. p. 130; id., Str. F. iii. p. 77. Trogon asiaticus, Lath., Ind. Orn. i. p. 201; Oates, B. Br. Burm. ii. p. 133. Megalaima asiatica, Marsh. Mon. Capit. pl. xxix.; Blyth, B. Burm. p. 73; Hume and Dav., Str. F. vi. p. 151; Hume, Str. F. viii. p. 88; Scully, Str. F. viii. p. 252.—The BLUE-FACED BARBET.**

Forehead, crown, a spot on each side at the base of the lower mandible, and one on each side at the base of the foreneck, crimson; a band across the crown continued backward as a supercilium black; a superciliary streak below this, as well as the chin, throat, cheeks and ear coverts verditer-blue; upper plumage green, with a faint ruddy gloss on the back, yellower on the under surface; quills dark brown, margined with bluish green; under side of tail feathers blue. Bill greenish yellow, the terminal two-thirds of upper mandible dark brown; irides hazel brown; eyelid edge orange-brown; legs pale green.

*Length*.—9·2 to 9·5 inches; tail 3; wing 4 to 4·3; tarsus 1; bill from gape 1·5.

*Hab*.—The Indo-Burmese countries into India. Found in Bengal and along the sub-Himalayan region as far as the Jumna river. It is confined, according to Oates, to the densest forests on the Eastern side of the Pegu hills. It has been met with at Tonghoo. In Tenasserim Mr. Davison obtained it in the northern portion of the division about Kollidoo and Pahpoon. It is recorded from Arracan by Blyth, and Jerdon says it is found throughout Lower Bengal, extending through the sub-Himalayan region as far as the Dehra Doon, also Assam and Sylhet; and that he observed it all through Lower Bengal from Calcutta to the Sikkim Himalayas. It is said to breed in April and May. There is nothing known of its eggs.



**1028. *Cyanops Davisoni***, *Hume, Str. F.* v. p. 108; *Hume and Dav., Str. F.* vi. p. 151; *Hume, Str. F.* viii. p. 88; *Bingham, Str. F.* ix. p. 165; *Oates, B. Br. Burm.* ii. p. 134.—**DAVISON'S BARBET.**

Precisely similar to *C. asiatica*, but somewhat smaller; entirely wants the black crown-band, and to a great extent the narrow yellowish line preceding it, and has these replaced by a broader turquoise blue band, thus diminishing the depth of the occipital red patch; pectoral red patches rather larger.

*Length*.—8·5 inches; wing 3·9; tail 2·8; tarsus 0·97. (*Hume, ex Oates.*)

*Hab.*—Tenasserim, where it also breeds in March. Eggs two in number.

**1029. *Cyanops incognita*** (*Hume*), *Oates, B. Br. Burm.* ii. p. 134. *Megalaima incognita*, *Hume, Str. F.* ii. pp. 442, 486; *Wald. in Blyth's B. Burm.* p. 74; *Hume and Dav., Str. F.* vi. pp. 151, 501; *Hume, Str. F.* viii. p. 88; *Bingham, Str. F.* ix. p. 166.—**HUME'S BARBET.**

“Green; lores, a very narrow frontal band, a small patch on the nape, and two small pectoral patches dark crimson; chin, throat, cheeks, ear coverts, forehead, and stripe over the eye, tinged with turquoise-blue. A narrow ring of tiny bright yellow feathers surrounds the eye.” (*Hume.*) *Male*.—Upper mandible, eyelids, and tip of lower mandible dusky horny; remainder of bill paler; legs and feet grass green; irides nut-brown. *Female*.—Lower mandible and base of upper mandible pale horny blue; rest of bill black; legs and feet dirty bluish-green. (*Davison.*)

*Length*.—8·6 to 9 inches; tail 2·4 to 2·5; wing 3·9; tarsus 1 to 1·1; bill from gape 1·4 to 1·46.

*Hab.*—Tenasserim, about Amherst and Yea, and in the vicinity of Tavoy. At Tavoy it was met with in thin tree jungle.

**1030. *Cyanops Ramsayi*** (*Wald.*), *Oates, B. Br. Burm.* ii. p. 135. *Megalæma Ramsayi*, *Wald., Ann. Nat. Hist. Ser. 4* xv. p. 400; *id. in Bl. B. Burm.* p. 74; *Hume, Str. F.* iii. p. 402; *Wardlaw-Ramsay, Ibis*, 1877, p. 457; *Hume and Dav., Str. F.* vi. p. 152; *Hume, Str. F.* viii. p. 88. *Cyanops Franklinii* (*Blyth*), *Ferd., B. Ind.* i. p. 314.—**RAMSAY'S BARBET.**

Forehead, and a patch on the nape, crimson; crown shining yellow; lores black; a broad supercilium and a patch under the eye with mixed streaks of grey and black; ear coverts silvery grey, a patch at the gape yellow, tinged with red; chin and upper throat golden yellow; lower throat, foreneck and under ear coverts dull grey; a thin band of bright greenish blue joining the ear coverts runs over the back of the neck bounding the bright colours of the head; a patch of black between the supercilium and the red nape spot; remainder of the plumage green, yellower below; lesser wing coverts deep purplish blue, which colour passes on to the edge of the wing and the outer webs of some of the primaries; quills dark brown on the inner webs, green on the outer; under wing coverts whitish; tail uniform dark green. (*Oates.*) Bill

horn brown, dirty white at the gape and sides; orbits dark brown; irides nut brown; legs and feet pale greenish plumbeous. (*Bingham, MS.*)

*Length*.—9·2 inches; tail 2·5; wing 4; tarsus 1; bill from gape 1·4.

*Hab.*—British Burmah, on the Mooleyit mountain, in the Thoungyeen Valley, and in Karenne. I have not any specimens of this and the preceding two rare species, nor have I seen them.

Gen. **Xantholæma**, *Bonap.*

Bill shorter than in *Cyanops*, wider and less compressed; 2nd quill of wing longest and sub-equal to the next three.

**1031. Xantholæma hæmacephala** (*P. L. S. Müll*), *Marsh., Monog. Capit. pl. xliii.*; *Wald., Trans. Zool. Soc. ix. p. 156*; *Hume, Nests and Eggs, p. 131*; *id., Str. F. iii. p. 77*; *Armstrong, Str. F. iv. p. 311*; *Oates, Str. F. v. p. 144*; *Hume and Dav., Str. F. v. p. 155*; *Murray, Vert. Zool. Sind, p. 117*; *Legge, B. Ceylon, p. 218*; *Hume, Str. F. viii. p. 88*; *Scully, Str. F. viii. p. 253*; *Bingham, Str. F. ix. p. 167*; *Kelham, Ibis, 1881, p. 390*; *Oates, B. Br. Burm. ii. p. 136*. *Bucco hæmacephalus, P. L. S. Müll., Natursyst. Suppl. p. 88*. *Bucco indicus, Lath., Ind. Orn. i. p. 205*. *Xantholæma indica, Jerd., B. Ind. i. p. 315, No. 197*; *Wald., Ibis, 1871, p. 162*. *Megalæma hæmacephala, Blyth, B. Burm. p. 74*.—The CRIMSON-BREASTED BARBET.

Forehead and forecrown bright crimson; throat and round the eyes pale sulphur yellow; pectoral gorget glistening crimson, edged below with an arrow of rich golden yellow; moustachial streak continued round the throat, above the crimson pectoral gorget and on the crown of the head, black; back and wing coverts green, more or less margined yellowish; primaries and secondaries greenish; the inner webs dusky brown and margined with dull white; tail greenish, tinged with blue; beneath, the abdomen, vent, and under tail coverts fulvous or greenish white, streaked with green; bill black; irides hazel; orbital skin dull crimson; legs coral red.

*Hab.*—India generally, also Burmah, Malayana, Ceylon, Nepaul, Tenasserim and Upper Pegu; Punjab, N.-W. Provinces and Oudh. Occurs in Kutch, Kattiawar and Jodhpore, and probably in North Guzerat also. In Sind it is rare, and occurs as-a visitor in September and October, affecting the acacia forests.

In Burmah it is found in every portion of the province, also in Karenne, and wherever it occurs it frequents open country, gardens, compounds, and groves of trees. Its presence is readily known by the note it utters, which is like the hammering of a piece of metal. It breeds in March, April and May, but in Central and Southern India a little earlier, laying 2—3 eggs in a hole of a tree, excavated by itself at no great height from the ground. Eggs pure white, from 0·87 to 1·07 in length  $\times$  0·62 to 0·72 in breadth.

**1032. *Xantholæma malabarica*** (*Blyth*), *Jerd., B. Ind.* i. p. 317, No. 189; *Marsh., Mon. Capit. pt. vi. pl. xlvi*; *Hume, Str. F.* iv. p. 392. *Bucco malabarica*, *Blyth, J. A. S. B.* xvi. p. 387.—The CRIMSON-THROATED BARBET.

Forehead, round the eyes, chin and throat crimson, the throat margined externally with golden yellow; occiput black or bluish; cheeks, ear-coverts and sides of the neck dull blue; upper surface dark green, the feathers edged paler; below pale or dull green. Bill black; irides red-brown; legs red.

*Length*.—6·25 inches; tail 1·5; wing 3·2; bill at front 0·5; tarsus 0·7.

*Hab.*—Malabar, Wynaad, Western Ghats in Mysore, and the Travancore hills. Habits similar to the last.

**1033. *Xantholæma cyanotis*** (*Blyth*), *Hume, Str. F.* iii. p. 77. *Megalæma cyanotis*, *Marsh., Mon. Capit. pl. xxxiii. fig. 3*; *Blyth, B. Burmah* p. 74; *Hume and Dav., Str. F.* vi. p. 155; *Hume, Str. F.* viii. p. 88; *Bingham, Str. F.* ix. p. 166; *Oates, B. Br. Burm.* ii. p. 137. *Bucco cyanotis*, *Blyth, J. A. S. B.* xvi. p. 465.—The BLUE-EARED BARBET.

Forehead, streak over the eye, ear coverts, chin and throat, dull blue; fore part of crown and patch at base of lower mandible black, tinged greenish; a patch under the eye, and a streak under and over the ear coverts red; rest of plumage green, darker above and yellower beneath; primaries and secondaries dark brown, margined on the outer webs with green; abdomen and tail with a bluish tinge. Bill black; eyelids and nude facial skin plumbeous; iris dark brown; legs dull greenish yellow.

*Length*.—6·7 inches; tail 2·2; wing 3·2; tarsus 0·8; bill from gape 1·05.

*Hab.*—Malay Peninsula, British Burmah, hill tracts of Eastern Bengal, Cachar, and Tipperah. Breeds in Tenasserim in February.

#### Gen. *Caloramphus*, *Less.*

Bill larger than in *Megalæma* or *Cyanops*; rictal bristles at base almost wanting; plumage plain.

**1034. *Caloramphus Hayi*** (*Gray*), *Hume and Dav., Str. F.* vi. p. 149; *Hume, Str. F.* viii. p. 88; *Oates, B. Br. Burm.* ii. p. 138. *Caloramphus Lathamii*, *apud Marsh., Monog. Capit. pl. lxxii.* *Megalorhynchus hayi*, *Wald., Ibis*, 1871, p. 163. *Bucco Hayi*, *Gray, Zool. Misc.* p. 33.—The BROWN BARBET.

Whole upper plumage dark brown, the feathers of the crown margined with rusty brown and those of the back, rump, and upper tail coverts margined with pale yellowish green; wing coverts and quills dark brown, the margins paler; tail dark brown; sides of the head rufous brown; chin and throat paler rufous, obsoletely barred with pale yellowish; remainder of the plumage dirty

yellowish white. (*Oates.*) Bill black in the male; reddish brown to a dirty orange or ochraceous brown in the female; legs and feet orange; irides dull red; orbital skin brown. (*Davison.*)

*Length.*—7 inches; tail 2'1; wing 3'2; tarsus 0'85; bill from gape 1'2.

*Hab.*—South Tenasserim down the Malay Peninsula to Sumatra. Found in small parties of 3—4; sometimes in pairs, and occasionally singly, hunting about the leaves, branches, and trunks of trees. Feeds on insects and fruit.

## ORDER.—PICI.

Zygodactylous birds, characterized by their striking and singular habits, to which their whole structure is adapted. They have large and strong bills, with the point sharp and wedge-shaped for the purpose of penetrating through the bark of trees in search of insect food in the decayed parts. The neck is short and furnished with strong muscles to enable them to strike with such force as to be heard at a distance. The tongue is long and extensile, at the end of which is a horny barbed probe-like substance, with which it extracts the insects from the crevices. Tail of 12 feathers, ten of them stiff-shafted, pointed at the ends and bent inwards to enable them to support themselves (together with their sharp clawed feet) in the act of climbing the perpendicular branches of trees. They breed in holes of trees, and lay shining white eggs. They are divided into several sub-families, according to the form, length, and strength of their bill, feet, and coloration.

### Family.—PICIDÆ—WOODPECKERS.

Bill moderate or long, straight, angular, wedge-shaped; wings moderate; 4th and 5th quills usually longest; tail of 2 small outer feathers and ten with thick and stiff shafts; feet zygodactyle; one toe sometimes absent; plumage varied, black and white, or green, crimson, yellow, and rufous mixed. Males with generally a check stripe and a crimson tuft or crest; nostrils apert or concealed by bristles.

### Sub-Family.—YUNCINÆ.

Bill short, conical, somewhat round, straight and pointed; nostrils basal, approximate, narrow, apert; wings moderate, pointed; 3rd quill longest; 2nd and 3rd sub-equal; 1st nearly as long; tail moderate, flexible, broad, of 12 feathers; feet zygodactyle, tarsus short; plumage speckled. They breed in holes and lay several white eggs.

**1035. Yunx torquilla**, *Linn., Syst. Nat.* i. p. 172; *Malh., Mon. Pic.* p. 289, pl. cxxi., fig. 4; *Ferd., B. Ind.* i. p. 303; *Hume, Nests and Eggs Ind. B.* p. 128; *id., Str. F.* iii. p. 75; *Dresser, B. Eur.* v. p. 103, pl.; *Wardlaw-Ramsay, Ibis*, 1877, p. 458; *Dav. et. Oust. Ois. Chine* p. 55; *Hume and Dav., Str. F.* vi. 149; *Hume, Str. F.* viii. p. 88; *Blyth, B.*

*Burm.* p. 78; *Oates, Str. F.* x. p. 192; *Murray, Hdbk. Zool., &c., Sind,* p. 131; *id., Vert. Zool. Sind,* p. 115; *Oates, B. Burm.* ii. p. 23.—The COMMON WRYNECK.

Top of the head greyish brown, finely barred with dark brown and white; neck, back, rump and upper tail coverts grey, speckled with brown; from the hind head (occiput) down the middle of the back of the neck, back, and between the scapulars, is a streak of dark brown mixed with black; the wings brown, speckled with light yellow and a few fulvous spots; the primaries barred with pale yellow and deep brown; the tertials with mesial dark streaks and fulvous barrings; rump and tail speckled grey, the former with dark longitudinal streaks, and the latter with four irregular transverse bars of black; chin, throat, ear coverts and neck in front, pale yellow-brown with narrow transverse black lines; breast, belly, flanks and under tail coverts dull white, or fulvous white, barred with black; under surface of tail feathers pale greyish brown, mottled and barred with dark brown; bill horny brown; irides crimson; legs greenish horny.

*Length.*—7 to 7.5 inches; wing 3.5; tail 2.5; bill at front 0.5.

*Hab.*—Throughout India. Occurs also in Europe and Greece; found in Beloochistan, S. Persia and S. Afghanistan, as well as in Sind, the Punjab, N.-W. Provinces, Bengal, the Indo-Burmese Countries, Arracan, Central and Southern India, and in the Western Presidency. It is recorded from the Concan, Deccan, Kutch, Kattiawar, and Jodhpore. Jerdon states he has never heard of its occurrence on the Malabar Coast, and records it from the sub-Himalayan region and Assam. In Sind it is a winter visitant. It is not known to breed any where in India. In Europe it is said to nest in holes of trees, upon rotten wood. The eggs are perfectly white, and from 8 to 10 in number. The food of the Wryneck is said to be chiefly ants, though other insects are also found in the stomach. In habits it is solitary, except during the breeding season, when it is usually found with its mate.

### **Sub-Family.**—INDICATORINÆ.—HONEY GUIDES.

Bill high, sub-conic, short, straight at gape, broad at base, arched and compressed on the sides; gonys angular; nostrils apert, placed in a fossa near the base of the bill and approximate near the culmen; wings long and pointed; 3rd quill longest; tail moderate, slightly wedge shaped, of 12 feathers, the outermost small, as in the woodpeckers. They are related to the woodpeckers in the structure of their feet and tongue. Their skin is said to be thick and tough, to guard them from the attack of bees, the honey of which insects form its chief food.

**1036. Indicator xanthonotus,** *Blyth, J. A. S. B.* xi. p. 166; *id., J. A. S. B.* xiv. p. 198; *Jerd., Ill. Ind. Orn.* pl. 50; *id., B. Ind.* i. p. 306, No. 190; *Str. F.* i. pp. 313, 426.—The YELLOW-BACKED HONEY GUIDE.

Upper plumage clove brown, passing to dusky black on the sides of the rump and tips of the upper tail coverts; thighs and under tail coverts streaked with black and white; forehead yellowish; lower back and rump bright yellow; chin, throat, and sides of the neck yellowish; under surface of the body brownish ash; tail dark brown, paler on the outer feathers, the outermost broadly edged with whitish. Bill brownish black; irides red-brown.

*Length*.—5·5 to 5·6 inches; wing 3·2 to 3·3; bill at front 0·25.

*Hab*.—S.-E. Himalayas. Has been obtained in Sikkim, at Darjeeling. Nothing is known of its nidification in India.

### Sub-Family.—PICUMNINÆ—PICULETS.

Bill short, straight, somewhat conic; tail short or moderate; wings long; tongue long and extensile; feet as in the woodpeckers.

#### Gen. *Vivia*, *Hodgson*.

General characters as in the sub-family; nostrils covered by incumbent bristles; tip of upper mandible truncate, the lower one acuminate; rictus bristled; wings moderate, 5th quill longest, 1st very short; tail of 12 feathers, the lateral feathers graduated; feet zygodactyle; tongue *Picina*.

**1037. *Vivia innominata*** (*Burton*), *Ferd., B. Ind.* i. p. 300; *Hume, Nests and Eggs Ind. B.* p. 127; *Blyth, B. Burm.* p. 78; *Hume, Str. F.* v. p. 351; *Hume and Dav., Str. F.* vi. p. 148; *Hume, Str. F.* viii. p. 88; *Scully, t. c.* p. 250; *Bingham, Str. F.* ix. p. 165; *Hargill, Ibis*, 1881, p. 223; *Oates, B. Br. Burm.* ii. p. 24; *Gould, B. Asia*, pt. xxii. pl. 13. *Picumnus innominatus*, *Burton, P. Z. S.* 1835, p. 154; *Math., Mon. Pic.* ii. p. 278, pl. cxvii., figs. 5—6; *Sundev., Conspectus Av. Pic.* p. 105. *Vivia nepalensis*, *Hodgs., J. A. S. B.* vi. p. 107.—THE SPECKLED PICULET.

Feathers of the forehead and forecrown dusky tipped with orange, remainder of the crown, nape, and ear coverts green; lores yellow; also the back, rump, upper tail coverts, and the wings and their coverts, but all tinged strongly with olivaceous; occipital streak and another under the eye and ear coverts white; chin to the breast yellowish white, ocellated with black; thence to the under tail coverts yellowish, boldly spotted with black; flanks barred with black and yellowish white; tail black, the middle pair of feathers white on their inner webs, the rest, except the smaller outermost, obliquely tipped with white. The *female* has not the yellow on the forehead and crown, nor is the plumage as yellow as the male on the lower surface; and the lores are whitish. Bill plumbeous black; irides brown; feet dark plumbeous.

*Length*.—4 inches; tail 1·4; wing 2·2; tarsus 0·4; bill from gape 0·7.

*Hab*.—The Himalayas, Cachar to Nepaul, Khasia hills, Tonghoo and Tenasserim, in British Burmah. Recorded also from the Wynaad. Affects tangled brushwood. Breeds in the Himalayas in April and May in small holes in the

branches of trees, which they excavate themselves. Eggs, seven in number, pure white, varying from 0·58 to 0·61 inch in length and from 0·49 to 0·51 inch in breadth. Mr. Thompson says they are capital insect-hunters and destroy vast quantities of the eggs and larvæ of xylophagus beetles.

Gen. **Sasia**, *Hodgs.*

General characters as in *Vivia*, the bill a little longer and broader; 5th and 6th quills equal and longest; feet 3-toed; hind toe stout and large; claws long, straight, and blunt.

**1038. *Sasia ochracea*, *Hodgs.*, *J. A. S. B.* v. p. 778; *Jerd.*, *B. Ind.* i. p. 301, No. 187; *Hume, Str. F.* iii. p. 75; *Blyth, B. Burm.* p. 78; *Hume and Dav., Str. F.* vi. p. 148; *Hume, Str. F.* viii. p. 88; *Hargitt, Ibis*, 1881, p. 231. *Picumnoides ochraceus*, *Malherbe, Mon. Pic.* ii. p. 287; *Oates, B. Br. Burmah* ii. p. 26. *Picumnoides lachrymosa* (*Lafr.*), *Malh., Mon. Pic.* ii. p. 287. *Picumnus ochraceus*, *Sundev., Consp. Av. Pic.* p. 106.—The RUFOUS PICULET.**

Frontal zone golden yellow; crown and nape olive; lores and feathers round the eye dusky; supercilium extending over the ear coverts white; sides of head, back, scapulars, and the whole lower plumage orange rufous, the back and scapulars with a strong olivaceous wash, and the rump washed with orange; upper tail coverts and tail black; the upper wing coverts olive; 1st primary edged with whitish; other quills dark brown, edged with olive and the tertiaries olive-rufous. The female has the forehead rufescent and not golden yellow. Bill dark plumbeous, lighter below; irides crimson.

*Length*.—3·2 inches; tail 1; wing 2; tarsus 0·5; bill from gape 0·52.

*Hab.*—The Himalayas, from Assam to Nepaul; Cachar, Assam, Khasia hills, Arracan, and British Burmah, in Pegu and Tenasserim.

**Sub-Family.**—GECININÆ.

Bill wide, with the culmen more or less curved, with a small or no lateral ridge; feet small; hind toe absent or very small.

Gen. **Gauropicoides**, *Malh.*

Hind toe wanting; bill and other characters as of the sub-family.

**1039. *Gauropicoides Rafflesii* (*Vigors*), *Malherbe, Mon. Pic.* i. p. liii; *Salvad., Ucc. Born.* p. 54; *Hume and Dav., Str. F.* vi. p. 146; *Hume, Str. F.* viii. p. 88; *Oates, B. Br. Burm.* ii. p. 42. *Picus Rafflesii*, *Vigors, App. Mem. Raffl.* p. 669; *Sundev., Consp. Av. Pic.* p. 57. *Chloropicoides Rafflesii*, *Malh., Mon. Pic.* ii. p. 102, pl. lxxii., figs. 1—4.—RAFFLES' THREE-TOED GREEN-WOODPECKER.**

Frontal feathers, lores, cheeks, chin, throat, and foreneck orange-fulvous; crown, nape and a very ample crest scarlet; stripe from the eye over the ear

coverts continued down the neck white ; another from the gape to under the ear coverts and also continued down the neck white ; the intermediate space, and a broad band under the lower white streak from behind the cheeks reaching down the neck, black ; rump, scapulars, and upper wing coverts golden olive ; quills dark brown, the primaries paler at the tips, the secondaries and tertiaries broadly edged with golden olive, and all with a few white spots on the inner webs near the base. Upper tail coverts and tail black ; breast and whole lower plumage dark brown, suffused with olive green ; sides of the body barred or spotted with whitish ; under wing coverts olive brown, spotted with white. In some males the feathers of the rump are tipped with crimson. The *female* has the head black instead of crimson. (*Oates.*) Legs and feet dark green ; irides deep brown to deep reddish brown ; upper mandible bluish black ; lower plumbeous. (*Davison.*)

*Length.*—12 inches ; tail 4·5 ; wing 5·5 ; tarsus 1·1 ; bill from gape 1·5.

*Hab.*—Malay Peninsula, the Islands of Sumatra and Borneo, and Tenasserim, in British Burmah, from Mooleyit mountain to Bankasoon. Mr. Davison says it is confined to the dense evergreen forests.

### Gen. *Gecinulus*, *Blyth*.

Bill shorter than in *Gauropicoides* ; more compressed laterally, the inner (fourth) or hind toe wanting.

**1040. *Gecinulus Grantia*, *McClell.*, *P. Z. S.* 1839 ; *Jerd.*, *B. Ind.* i. p. 292, No. 177.**—The PALE-HEADED THREE-TOED GREEN WOODPECKER.

Forehead, lores, sides of the head and neck and throat yellowish green, paler and tinged with yellow on the lower neck ; crown, nape and crest dull crimson ; *back, scapulars, wing and upper tail coverts brownish red or dull red*, the secondaries and tertiaries with three light red bars ; primaries dusky greenish, crossed with 4—5 yellow bars ; tail dusky greenish, the feathers edged with reddish and with yellowish bands ; chin yellowish ; breast and abdomen dusky brownish green ; bill bluish white, darker blue at the base ; irides red ; legs pale dusky green.

*Length.*—10 to 10·5 inches ; wing 5 ; tail 3·75 ; bill at front 1.

*Hab.*—S.-E. Himalayas, extending to Assam. Jerdon says he found it not uncommon near Darjeeling.

**1041. *Gecinulus viridis*, *Blyth*, *J. A. S. B.* xxxi. p. 341 ; *id.*, *B. Burm.* p. 77 ; *Hume*, *Str. F.* iii. p. 71 ; *Hume and Dav.*, *Str. F.* vi. p. 144 ; *Hume*, *Str. F.* viii. p. 88 ; *Bingham*, *Str. F.* ix p. 164 ; *Oates*, *B. Br. Burm.* ii. p. 41 ; *Sundev.*, *Consp. Av. Pic.* p. 48.**—BLYTH'S THREE-TOED GREEN WOODPECKER.

Forehead, lores, sides of the head and neck and throat yellowish brown, tinged with golden on the sides of the neck ; crown, nape and crest crimson ; *back, scapulars, wing coverts and upper tail coverts olive yellow* ; rump olive



yellow, tipped with red; tail dark-brown, tinged with olive yellow on the outer webs near the base, and all but the central pair with white spots on the inner webs; quills dark brown, the outer webs broadly edged with olive yellow, the inner webs of all spotted with white; chin blackish; breast, abdomen, sides, vent, and under tail coverts greenish-brown. The *female* has the crown, nape and crest yellow. Bill pale milk-blue; iris red; eyelids plumbeous; legs green. (*Oates*.)

*Length*.—10·5 to 10·7 inches; tail 4·2; wing 4·2 to 5·4; tarsus 1; bill from gape 1·2.

*Hab*.—The Malay Peninsula, and upwards on the Pegu and Tonghoo hills, at an elevation of 2,500 feet. It is said to be common in every portion of Tenasserim. According to Oates it is very partial to large bamboo jungles which grow on the hills.

#### Gen. **Tiga**, *Kaup*.

Bill slightly more curved than in the last; base of bill with a slight lateral ridge; posterior toe shorter than the anterior; inner hind toe wanting; 4th quill and middle tail feathers longest.

**1042. Tiga Javanensis** (*Ljungh.*), *Salvad. Ucc. Born.* p. 54; *Bl. and Wald.*, *B. Burm.* p. 75; *Twicedd.*, *Ibis*, 1877, p. 288; *Hume and Dav.*, *Str. F.* vi. p. 146; *Hume*, *Str. F.* viii. p. 88; *Oates*, *Str. F.* viii. p. 165; *Bingham*, *Str. F.* ix. p. 164; *Oates*, *B. Br. Burm.* ii. p. 55. *Picus Javanensis*, *Ljungh.*, *Act. Stockh.* xviii. p. 134, t. 6; *Sundev.*, *Consp. Pic. Av.* p. 83. *Picus shorei*, *Vigors*, *P. Z. S.* 1831, p. 175; *Sundev.* *t. c.* p. 83. *Tiga intermedia*, *Blyth*, *J. A. S. B.* xiv. p. 193. *Chrysonotus shorei*, *Ferd.*, *B. Ind.* i. p. 298, No. 183. *Chrysonotus intermedius*, *Ferd.*, *t. c.* p. 299, No. 185. *Tiga shorii*, *Hume*, *Str. F.* iii. p. 73; *id.*, viii. p. 88. *Tiga intermedius*, *Hume*, *Str. F.* iii. p. 328. *Tiga rubropygialis*, *Hume*, *Str. F.* iv. p. 390. *Chrysonotus Biddulphi* (*Tick.*), *Wald.*, *Ibis*, 1876, p. 344; *Hume*, *Str. F.* v. p. 497.—THE COMMON LARGE THREE-TORD WOODPECKER.

Head and nape, also the occipital crest, deep crimson; back of the neck black; back and scapulars golden yellow, washed with crimson; rump bright crimson; upper tail coverts and tail black; wing coverts and tertiaries golden yellow; primaries and their coverts dusky black, the primaries spotted with white on their inner web; secondaries golden yellow on the outer and black, barred with white on the inner webs; a band of white from the eye, expanding into a patch on the side of the neck, followed by another one of black below it, and a third one of white from the gape, which again is followed by a black band from the base of the lower mandible, the black bands meeting on the sides of the neck below the white patch; chin and throat white, with a mesial line running down the foreneck; under surface of the body fulvous white, each feather margined with black; under wing coverts white, barred

with black. The *female* has the whole head and nape black, the feathers with oval or elongate, larger or smaller white spots; back dull crimson. Bill dark brown; irides hazel; eyelids plumbeous; legs greenish.

*Length*.—11·5 to 12 inches; tail 4 to 4·2; wing 5·8 to 6; bill from gape 1·5.

*Hab*.—Malay Peninsula, Sumatra, Java, Borneo, Celebes, Cochin-China, and Siam; also the whole range of the Himalayas, extending into Assam and the Burmese Countries (Pegu and Arracan). In South and Central India it is also common. Jerdon got it in the jungles of Malabar. In Bangalore and Travancore it has also been got, and also on the Neilgherries. Oates says he found a nest in Pegu in May in a hole of a tree with three eggs.

Gen. **Brachypternus**.—*Strickl.*

Bill distinctly curved; lateral ridge absent; nostrils apert; tail cuneate. Hind toe and claw minute.

**1043. *Brachypternus aurantias* (Linn.), *Malh., Mon. Pic.* ii. p. 69, figs. 5—6; *Ferd., B. Ind.* i. p. 295, No. 180; *Hume, Nests and Eggs Ind. B.* p. 126; *Str. F.* i. p. 171; *Murray, Hdbk. Zool., &c., Sind*, p. 131; *id., Vert. Zool. Sind* p. 114. *Brachypternus dilutus*, *Blyth, J. A. S. B.* iv. p. 550; *Ferd., B. Ind.* i. p. 297, No. 182; *Str. F.* i. p. 171; *Murray, Hdbk. Zool., &c., Sind*, p. 131; *id., Vert. Zool. Sind* p. 114.—THE GOLDEN-BACKED WOODPECKER.**

*Adult Male*.—Head and crest bright crimson; hind neck, lower back, upper tail coverts and tail black; middle of the back black, mixed with greenish yellow; upper back and scapulars rich golden yellow; wing coverts black, changing to greenish yellow, the feathers white-spotted; primaries dusky brown, spotted white on their outer and inner webs; the secondaries and tertiaries greenish yellow on their outer webs, dusky on their inner webs, and also spotted white. Cheeks, sides of the neck, and a stripe from the nostrils to the eyes, white; a dusky stripe through the eyes to, and including the ear coverts; chin, throat, sides of the face below the white cheek patch, neck and entire under parts striated black and white, the striations less distinct on the lower abdomen, vent and under tail coverts. Flanks and tibial plumes white, the feathers with black bars. The female has the head black with small white spots on the crown, and a small tuft of crimson behind; bill black; irides reddish brown; feet dusky green.

*Length*.—10·5 to 12 inches; wing 5·5 to 5·75; tail 4; bill at front 1·25.

*Hab*.—Throughout the greater part of India to the foot of the Himalayas, Cashmere, Nepal and Ceylon. Occurs also in the Punjab, N.-W. Provinces, Kelat and Afghanistan. Breeds all over the plains of India during April, May, June and July, in holes in mango, siris, or other soft-wooded trees, which they excavate themselves. There is no nest except the fine chips which fall in the act of boring, on which the eggs, generally three in number,

are laid. The eggs are a lengthened pyriform oval, milk-white, and glossy. In length they vary from 1·0 to 1·2 inch, and in breadth from 0·77 to 0·85 inch. I agree with Mr. Hume, who very properly points out (*Str. F.* vol. i. p. 171) that the Sind species, *B. dilutus*, is not specifically separable.

**1044. *Brachypternus chrysonotus* (Lesson.), *Ferd.*, *B. Ind.* i. p. 296, No. 181. *Brachypternus puncticollis*, *Malh.*, *Mon. Pic.* ii. pl.; *Hume*, *Str. F.* iv. p. 242.—The LESSER GOLDEN-BACKED WOODPECKER.**

Similar to the last, but smaller; the frontal feathers are more mixed with black in the male; the black of the nape is continued lower upon the shoulders, contrasting strongly with the golden orange of the back; wings are of a duller golden. Eyestreak narrower, but darker and more strongly defined, and the white spots are smaller; the white markings of the throat and foreneck are also smaller and consist of round oval points, edged on the sides of the neck by unspotted black; lastly, the white markings of the under parts are narrower, giving a generally dark hue to the breast and abdomen. Bill dark slaty; legs plumbeous green; irides crimson. (*Ferd.*)

*Length*.—11·5 inches; tail 3·25; wing 5·25; bill at front 1·1.

*Hab.*—Southern India, in the Carnatic and Malabar. Said to occur also on the slopes of the Neilgherries.

#### Gen. *Micropternus*.—*Blyth*.

Bill broad at base; culmen arched; no lateral ridge; wings and tail short; feet small; inner hind toe and claw minute; plumage chestnut bay.

**1045. *Micropternus phæiceps*, *Blyth*, *J. A. S. B.* xiv. p. 195; *Ferd.*, *B. Ind.* i. p. 294, No. 178; *Hume*, *Str. F.* iii. p. 72; *Blyth and Wald.*, *B. Burm.* p. 77; *Gammie*, *Str. F.* iv. p. 511; *Hume*, *Str. F.* v. p. 480; *Hume and Dav.*, *Str. F.* vi. p. 145; *Cripps*, *Str. F.* vii. p. 262; *Scully*, *Str. F.* viii. p. 249. *Phaiopicus Blythii*, *Malh.*, *Rev. Zool.* 1849, p. 534. *Phaiopicus rufinotus*, *Malh.*, *Mon. Pic.* ii. p. 1, pl. xlvii, fig. 1—3. *Picus rufinotus*, *Sundev.*, *Consp. Av. Pic.* p. 88. *Micropternus burmannicus*, *Hume*, *Proc. As. Soc. Bengal*, 1872, p. 71; *Blyth and Wald.*, *B. Burm.* p. 77. *Micropternus phæiceps* (*Blyth*), *Hume*, *Str. F.* viii. p. 88; *id.*, ix. p. 112; *Bingham*, *Str. F.* ix. p. 164; *Oates*, *Str. F.* x. p. 192; *id.*, *B. Br. Burmah* ii. p. 57.—The BENGAL RUFOUS WOODPECKER.**

Plumage dark chestnut-bay, paler on the head and nape; back, rump, upper tail coverts, tail and wings cross banded with black; feathers of the chin and throat faintly edged paler; sub-orbital and post-orbital feathers tipped with crimson; neck in front, breast and abdomen, bright chestnut-bay; lower abdomen somewhat paler, and with dusky cross bands. The female has no crimson tips to the feathers under and behind the eye. Very old birds want the subterminal bands on the lower surface. Bill dark brown, plumbeous at base of lower mandible; irides brown; legs and feet greyish brown.

*Length*.—9·75 to 10 inches; tail 2·75 to 3; wing 4·8 to 5; tarsus 0·9; bill from gape 1·2; at front 1.

*Hab*.—The Himalayas as far as Kumaon, extending south to Central India. Found also in Nepaul, Sikkim, Lower Bengal, forests of Central India, Nagpore (S.-E.), Assam and British Burmah. It also occurs in the Malay Peninsula. In Burmah, according to Oates, it is most abundant in the evergreen forests and in the dense orchards and pineapple gardens about Rangoon. Feeds largely on ants, in the hanging nests of which Mr. Gammie is said to have discovered that it lays its eggs.

**1046. *Micropternus brachyurus* (Vieill.), Hume, *Str. F.* v. p. 48; *Hume and Dav.*, *Str. F.* vi. p. 145; *Hume, Str. F.* viii. p. 88; *Oates, B. Br. Burm.* ii. p. 58. *Picus brachyurus*, Vieill., *Nouv. Dict. d' Hist. Nat.* xxvi p. 103. *Picus squamigularis*, *Sundev.*, *Consp. Av. Pic.* p. 89.—The MALAYAN RUFOUS WOODPECKER.**

Not unlike *Micropternus phaeoceph*, but smaller, the bars on the tail are broader; the chin, throat, and cheeks which are blackish have the feathers broadly margined with white. The female differs in the same way as that of *M. phaeoceph*.

*Length*.—8 inches; tail 2·6; wing 4·5; tarsus 0·8; bill from gape 1·1.

*Hab*.—Tenasserim, thence down the Malay Peninsula to Singapore.

**1047. *Micropternus gularis*, *Ferd.*, *B. Ind.* i. p. 294, No. 179; *Hume, Str. F.* v. p. 477 *et. seq.*; *id.*, *Str. F.* vii. p. 470. *Phaiopicus Jerdoni*, *Malherbe, Rev. Zool.* 1849, p. 538.—The SOUTH INDIAN RUFOUS WOODPECKER.**

Whole upper plumage rufous-bay with cross bands of dusky black; head dusky brown; chin, throat and part of cheeks olivaceous brown, the feathers mottled with white; cheek stripe crimson; under plumage unspotted bay; under tail coverts faintly barred with dusky. Bill black; irides brown.

*Length*.—7·5 to 9 inches; tail 2·5 to 3; wing 4·8; bill at front 0·9.

*Hab*.—Forests of Malabar both above and below the Ghauts. Affects forest jungle. It has also been found in the Southern Mahratta Country, where Mr. Elliot obtained it at Dharwar. He remarks that like many other species of Woodpeckers, the head, scapulars, and tail are generally smeared with a gummy substance.

### Gen. *Venilia*.—Bonap.

Bill long, nearly straight, almost the same width throughout; lateral ridge distinct, extending to two-thirds the length of the bill; culmen ridged; wings long; tail rather short; outer toe nearly equal to the medial; inner one short.

**1048. *Venilia pyrrhotis* (Hodgs.), *Ferd.*, *B. Ind.* i. p. 291, No. 176; *Wald. in Blyth's B. Burm.* p. 77; *Hume and Dav.*, *Str. F.* vi. p. 142; *Oates, B. Br. Burm.* ii. p. 39. *Picus pyrrhotis*, *Hodgs.*, *J. A. S. B.***

vi. p. 108; *Sundev., Consp. Av. Pic.* p. 47. *Celeopicus pyrrhotis*, *Malh., Mon. Pic.* ii. p. 37, pl. xlix., figs. 4—6. *Blythipicus pyrrhotis*, *Hume, Str. F.* vii. p. 520; viii. p. 88.—The CRIMSON-NECKED BAY WOODPECKER.

Head dusky brown, the feathers pale shafted; a broad crimson collar round the nape of the neck, extending from ear coverts to ear coverts; back, scapulars, wings, and tail dark cinnamon or chestnut-red, transversely banded throughout with black; chin and throat pale brown, with paler shaft lines; breast, abdomen, and flanks blackish brown; thigh coverts, vent, and under tail coverts blackish or dusky brown, transversely banded with chestnut. The *female* has not the crimson collar round the nape of the neck. Bill bright yellow; legs slaty green, tinged with yellowish; irides red-brown.

*Length*.—12 inches; tail 4; wing 6; tarsus 1·1; bill from gape 2.

*Hab.*—S.-E. Himalayas from Assam to Sikkim and Nepaul. Occurs also in Cachar, on the Tounghoo hills, and in Tenasserim.

**1049. *Venilia porphyromelas*** (*Boie*), *Hume and Dav., Str. F.* vi. p. 143; *Oates, B. Br. Burm.* ii. p. 40. *Picus porphyromelas*, *Boie, Briefe geschr. Aus. Ostind.* p. 143. *Hemicircus rubiginosus*, *Swains., B. W. Afr.* ii. p. 150. *Celeopicus porphyromelas*, *Malh., Mon. Pic.* ii. p. 39, pl. xlix., figs. 1—3. *Lepocestes porphyromelas*, *Salvad., Ucc. Born.* p. 48. *Blythipicus porphyromelas*, *Hume, Str. F.* viii. p. 88.—The CRIMSON-NECKED MAROON WOODPECKER.

Whole head, chin and throat brown, darker on the crown and nape; a large bright crimson patch on each side of the nape; cheeks in some specimens tinged with red; back and scapulars maroon, the shafts of the feathers whitish; rump and upper tail coverts brown, suffused with maroon and obscurely banded with brownish white; tail black, banded narrowly with brownish white; upper wing coverts maroon, the centres of the feathers more or less brown, narrowly and indistinctly barred with whitish; wings and primary coverts dark brown with pale rufescent bars, the outer webs suffused with maroon; foreneck, breast and all the lower plumage blackish brown, tinged with chocolate or rufous, and with a trace of maroon on the sides of the body; under tail coverts indistinctly barred with paler brown. The *female* has not the crimson patches on the sides of the nape. (*Oates*.) Bill yellow, tinged greenish at base; irides scarlet; legs purplish brown. (*Davison*.)

*Length*.—9 inches; tail 3; wing 5; tarsus 0·9; bill from gape 1·6.

*Hab.*—Tenasserim, extending down the Malay Peninsula. Found also in the Islands of Sumatra and Borneo.

#### Gen. *Callolophus*.—*Salvad.*

Bill as in the last, a little wider and more compressed at the tip; slightly more curved and with the lateral ridge nearly obsolete; tail long; claws long and strongly curved.

**1050. *Callolophus mentalis* (Temm.),** *Salvad., Ucc. Born.* p. 49; *Hume and Dav., Str. F.* vi. p. 138; *Hume, Str. F.* vii. p. 87; *Oates, B. Br. Burm.* ii. p. 46. *Picus mentalis*, *Temm., Pl. Col.* 384; *Sundev., Consp. Av. Pic.* p. 58. *Chloropicus mentalis*, *Malh., Mon. Pic.* ii. p. 112, pl. lxxv., figs. 1, 5 and 6. *Chrysophlegma mentalis*, *Blyth, B. Burm.* p. 76.—The SPOTTED-THROATED YELLOW-NAPED WOODPECKER.

Forehead, crown, nape, ear coverts, and feathers under the eye dull green or greenish brown; occipital crest bright yellow; back, rump, scapulars, upper tail coverts and tertiaries green; edge of the wing green; primaries dark brown, with rufous spots or bars on both webs, the basal portion of the outer webs more or less crimson; secondaries with the outer webs crimson; the inner dark brown, barred with rufous; upper wing coverts crimson; tail black; chin and cheeks brown, spotted with dull white; throat black, streaked with white; sides of the nape and of the neck and breast chestnut; remainder of lower plumage dull green, tinged with yellow; under wing coverts greenish, barred with fulvous. The *female* differs in having the chin and cheeks chestnut like the breast, not brown, spotted with white. (*Oates*.) Legs and feet green; upper mandible dull black; lower mandible and edges of upper mandible near the nostrils pale plumbeous; orbital skin green; irides deep red. (*Davison*.)

*Length*.—11 inches; tail 4; wing 5.2; tarsus 0.9; bill from gape 1.5.

*Hab*.—Extreme south of Tenasserim about Bankasoon (*Davison*), extending to the Malay Peninsula and the islands of Sumatra, Java, and Borneo.

**1051. *Callolophus malaccensis* (Lath.),** *Salvad., Ucc. Born.* p. 50; *Tweedd., Ibis*, 1877, p. 288; *Hume and Dav., Str. F.* vi. p. 140; *Hume, Str. F.* viii. p. 88; *Oates, B. Br. Burm.* ii. p. 47. *Picus malaccensis*, *Lath., Ind. Orn.* i. p. 241. *Chloropicus miniatus*, *apud Malh., Mon. Pic.* ii. p. 116, pl. lxxvi., figs. 1—3. *Picus miniatus*, *apud Sundev., Consp. Av. Pic.* p. 59 (part). *Venilia malaccensis*, *Sclater, P. Z. S.* 1863, p. 211.—The MALACCAN YELLOW-NAPED WOODPECKER.

Forehead, crown, and frontal feathers of the crest, also the wing coverts, bases of the outer webs of the primaries, and all the secondaries, tertiaries, and scapulars crimson; primaries dark brown, spotted on their outer webs and barred on their inner with yellowish white; secondaries barred in like manner on their inner webs only; longer crest feathers on the nape yellow; sides of the head mixed brown and crimson; neck behind and back greenish, barred with yellowish; rump bright yellow, indistinctly barred with green; upper tail coverts brown, tipped with pale yellow; tail black; chin, throat, sides of the neck and breast dull buff; remainder of lower plumage buffish white, closely barred with brown; under wing coverts buffish, barred with brown. The *female* differs in not having any crimson on the sides of the face and in having the forehead, lores, feathers round the eye, cheeks, chin and throat tipped with white, preceded by a black bar. Upper mandible of bill black.

lower mandible from pale plumbeous to bluish white ; legs dingy green ; irides red. (*Davison*.)

*Length*.—10·5 inches ; tail 4 ; wing 5·3 ; tarsus 0·8 ; bill from gape 1·3.

*Hab*.—Tenasserim, extending south to the Malay Peninsula, Sumatra and Borneo. Affects evergreen forests, and Oates adds is also partial to mangrove swamps.

**1052. *Callolophus puniceus* (*Horsf.*), *Salvad.*, *Ucc. Born.* p. 49 ; *Hume and Dav.*, *Str. F.* vi. p. 139 ; *Hume*, *Str. F.* viii. p. 88. *Picus puniceus*, *Horsf.*, *Trans. Linn. Socy.* xiii. p. 176 ; *Sundev.*, *Consp. Av. Pic.* p. 58. *Chloropicus puniceus*, *Malh.*, *Mon. Pic.* ii. p. 110, pl. lxxiv., figs. 5—7. *Chrysophlegma puniceus*, *Oates*, *B. Br. Burm.* ii. p. 44.—HORSFIELD'S YELLOW-NAPED WOODPECKER.**

Whole top of head (except the lengthened crest feathers, which are yellow), a patch on each side below gape, the wing coverts, bases of the primaries, outer webs of the secondaries, and a mesial patch on the tertiaries, crimson ; inner web of the primaries and also of the secondaries black, spotted with white ; tail black ; back, scapulars, rump and upper tail coverts green, the feathers margined with yellow ; tertiaries broadly tipped with green ; sides of the head and under surface of the body brownish green, paler on the chin and throat ; flanks spotted or barred with white ; under wing coverts brown, spotted with white. The *female* has not the crimson patch at the base of the upper mandible : upper mandible greenish yellow at base and black for its terminal length ; lower mandible greenish yellow ; irides crimson ; legs pale green ; orbital skin lavender blue.

*Length*.—10·5 inches ; tail 4 to 4·2 ; wing 5 to 5·1 ; tarsus 0·95 ; bill from gape 1·3.

*Hab*.—Southern Tenasserim, where it inhabits evergreen forests, and only occasionally comes into clearings. Extends down the Malay Peninsula and the islands of Sumatra, Java, and Borneo.

#### Gen. *Chrysophlegma*.—*Gould*.

General characters of *Callolophus*, the bill slightly more curved ; the lateral ridge traceable only close to the base of the bill ; culmen blunt ; tail long, cuneate.

**1053. *Chrysophlegma flavinucha* (*Gould*), *Ferd.*, *B. Ind.* p. 289, No. 173 ; *Hume*, *Str. F.* iii. p. 71 ; *Hume and Dav.*, *Str. F.* vi. p. 137 ; *Hume*, *Str. F.* viii. p. 87 ; *Oates*, *B. Br. Burm.* ii. p. 43. *Picus flavinucha*, *Gould*, *P. Z. S.* 1833, p. 120 ; *Sundev.*, *Consp. Av. Pic.* p. 57. *Chloropicus flavinucha*, *Malh.*, *Mon. Pic.* ii. p. 106, pl. lxxiii., figs. 1—4. —GOULD'S or the LARGE YELLOW-NAPED WOODPECKER.**

Forehead and crown reddish brown, tinged with green on the occiput and nape; posterior nuchal feathers of the crest and hind neck glossy or bright yellow; sides of the head and neck greenish brown; upper surface of the body, including the wing coverts, bright green; primaries, secondaries, and tertiaries, barred across with black and cinnamon red, the two latter broadly edged and tipped with green; tail black; chin, throat and cheeks yellow, the bases of the feathers black, and showing through; foreneck greenish black; breast dusky greenish; rest of lower plumage ashy or greyish brown; under wing coverts whitish, barred with black. The *female* has the chin and throat reddish brown instead of yellow. Bill bluish white; legs slaty green; irides red; orbital skin pale green.

*Length*.—13 to 14 inches; tail 5·1 to 5·5; wing 6·2 to 6·7; bill from gape 1·6.

*Hab*.—Throughout the Himalayas, extending into Assam, Sikkim and Burmah, also to the hill tracts of Eastern Bengal. Jerdon says it is not rare in Darjeeling at elevations of from 2,000 to 6,000 feet. In British Burmah Oates records it as abundant in most of the deep forests of Pegu and in all parts of the Pegu hills. It has been met with at Tonghoo and on the Karin hills. Davison found it in Tenasserim and Captain Bingham in the Thoungyeen Valley. It is also recorded from Arracan by Mr. Blyth, and is said to descend to the ground in search of food.

**1054. Chrysophlegma chlorolophus** (Vieill.), *Ferd., B. Ind.* i. p. 289, No. 174; *Hume, Str. F.* iii. p. 71; *Wald. in Blyth's B. Burm.* p. 76; *Hume and Dav., Str. F.* vi. p. 138; *Hume, Str. F.* viii. p. 87; *Scully t. c.* p. 249; *Oates, B. Br. Burm.* ii. p. 45. *Picus chlorolophus*, Vieill., *Nouv. Dict. d'Hist. Nat.* xxvi. p. 78; *Bonn. et Vieill. Tabl. Enc. et Meth.* p. 1300; *Sundev., Conspectus Av. Pic.* p. 58. *Chloropicus chlorolophus*, *Malh., Mon. Pic.* ii. p. 108, pl. lxxiv., figs. 1—3.—THE LESSER YELLOW-NAPED WOODPECKER.

Forehead, a stripe on each side of the crown extending over the eyes to the nape, and a patch on each side of the base of the lower mandible, crimson; crown and nape green; occipital crest yellow; back, scapulars, rump and upper tail coverts, also the upper wing coverts, tertiaries and primary coverts bright green, the latter with a golden tinge; tail black; primaries and secondaries black, the primaries red basally on the outer web, the red increasing in extent till it occupies the whole of the web of the last one; secondaries also red on the outer web, but margined with green; both primaries and secondaries barred with white on the inner webs; side of the head and neck, also the chin, throat and breast brownish green; from the gape extends a whitish line to under the ear coverts; under surface of the body, including the flanks and under wing coverts, whitish, barred with brownish green. The *female* has only a short crimson streak on either side of the head, and the bases of the feathers of the chin and throat show through. "Upper mandible horny black; lower the



same but lemon-yellow on the basal half ; irides bright red ; legs dull greenish ; eyelids lavender." (*Oates*.)

*Length*.—10·5 inches ; tail 4 ; wing 5·4 ; tarsus 0·85 ; bill from gape 1·2.

*Hab*.—The Himalayas from Assam to Nepaul, also Cachar, the hill tracts of Eastern Bengal, Arracan, Pegu and Tenasserim ; rare in Lower Bengal. Habits like the last.

**1055. *Chrysophlegma chlorigaster*, *Ferd.*, 2nd *Suppl. Cat.* p. 211 ; *Hume*, *Str. F.* vii. p. 517. *Chrysophlegma chlorophanes*, *Ferd.*, *B. Ind.* 1. p. 290 *Picus chlorophanes*, *Vieill.*, *Nouv. Dict. d' Hist. Nat.* xxvi. p. 79. —The SOUTHERN YELLOW-NAPED WOODPECKER.**

Whole head and cheek stripe red ; crest red, the feathers terminating with yellow ; back, scapulars, rump and upper tail coverts bright green ; ear coverts brownish green ; wings greenish, tinged with orange, the outer webs of the quills orange red, the inner webs dusky and with white spots ; tail black ; under surface of the body dull green ; lower abdomen barred and spotted with white. Bill slaty green ; under mandible yellow ; legs dull green ; irides reddish brown.

*Length*.—9 to 9·7 inches ; tail 3·9 to 4 ; wing 4·7 to 4·8 ; bill at front 0·9.

*Hab*.—South India, in Malabar, Travancore, and Ceylon. Habits same as the last. Nothing is known of its nidification.

#### Gen. *Gecin*us.—*Boie*.

Bill slightly widened in its whole length, compressed at the tip ; upper mandible with one or more lateral ridges near the culmen, which is slightly arched ; anterior and versatile toes nearly equal ; head crested ; tail long, cuneate.

**1056. *Gecin*us *squamatus* (*Vigors*), *Ferd.*, *B. Ind.* i. p. 286 ; *Hume*, *Nests and Eggs Ind. B.* p. 124. *Picus squamatus*, *Vigors*, *P. Z. S.* 1831, p. ; *Gould*, *Cent. Him. B.* pl. 48. *Picus dimidiatus*, *apud*. *Gray and Hardw.*, *Ill. Ind. Orn.* 1. pl. 29, fig. 1.—The SCALY-BELLIED GREEN WOODPECKER.**

Head with the crest and hind neck dull scarlet ; superciliary stripe extending as far as the nape whitish ; a second one from across the forehead immediately above the supercilium black ; ear-coverts dusky green ; cheek stripe blackish, bordered by a pale line ; back, scapulars, rump, and upper tail coverts green, the two latter tinged with yellowish ; wings and tail dusky black ; primaries with their outer webs spotted with white ; secondaries and tertiaries suffused with greenish on their outer margins and barred paler ; tail barred and spotted with white, the middle feathers tinged greenish ; chin and throat albescent ashy ; beneath dusky albescent greenish, the feathers of the abdomen edged with black. The *female* has not the scarlet head, which is replaced by black. Bill dusky above at base, yellowish terminally ; legs greenish slaty.

*Length*.—13 to 14 inches; tail 5·5; wing 6·5; bill at front 1·75.

*Hab*.—N.-W. Himalayas to Nepaul. Breeds throughout the outer ranges from March to June, on *Rhododendron* and *Andromeda* trees, generally laying 5—6 eggs, of a glossy white colour. The eggs vary from 1·14 to 1·35 inch  $\times$  0·9 to 1·0 inch.

**1057. *Gecinus striolatus* (Blyth), *Ferd.*, *B. Ind.* i. p. 287, No. 171; *Hume, Nests and Eggs Ind. B.* p. 125; *id.*, *Str. F.* iii. p. 68; *Blyth and Wald.*, *B. Burm.* p. 76; *Anderson, Yunnan Exped.* p. 585; *Legge, B. Ceylon* p. 194; *Hume and Dav.*, *Str. F.* vi. p. 136; *Cripps, Str. F.* vii. p. 262; *Scully, Str. F.* viii. p. 247; *Hume, Str. F.* viii. p. 87; *Oates, B. Br. Burm.* ii. p. 49. *Picus striolatus*, *Blyth, J. A. S. B.* xii. p. 1000; *Sundev., Consp. Av. Pic.* p. 60. *Chloropicus striolatus*, *Malh., Mon. Pic.* ii. p. 134, pl. lxxvii., fig. 1—3.—BLYTH'S STRIATED GREEN WOODPECKER.**

Forehead with a narrow black line; rest of the head and upper parts scarlet; back, scapulars, sides of the neck, wing coverts and tertiaries green; supercilium, lores and a stripe under the eye and ear coverts whitish; rump and upper tail coverts golden yellow; tail dusky black, the basal half of the middle feathers barred with white, nearly obsolete on the others; primaries and their coverts dark brown, spotted with white on both webs; secondaries the same, but broadly margined with greenish on the outer webs; sides of the head and ear coverts greyish brown streaked darker; under surface of the body dull green, the edges of the feathers paler and with two black streaks meeting at the tip; under wing coverts white, barred with blackish. The female has the red on the head replaced by black. Bill with the upper mandible horn colour, lower mandible yellow, except the horn colour tip; irides red, surrounded by a white circle; legs olive green.

*Length*.—11·5 inches; tail 4; wing 5·5; tarsus 1; bill from gape 1·4.

*Hab*.—The Himalayas, especially abundant in the sub-Himalayan region from Kumaon to Cashmere, and in the low jungles of the N.-W. Provinces, Oudh and the Punjab. It is also recorded from Mount Aboo in Guzerat. It extends throughout the Indo-Burmese countries, the hill tracts of Eastern Bengal, South India, and nearly the whole continent of India down to Ceylon. Breeds in the Dhoons, and almost everywhere it is found. Eggs similar to those of the last.

**1058. *Gecinus occipitalis* (Vigors), *Ferd.*, *B. Ind.* i. p. 289, No. 172; *Hume, Nests and Eggs Ind. B.* p. 125; *Hume, Str. F.* iii. p. 70; *Blyth and Wald.*, *B. Br. Burm.* p. 76; *Hume and Dav.*, *Str. F.* vii. p. 137; *Hume, Str. F.* viii. p. 87; *Oates, Str. F.* viii. p. 165; *Scully, t. c.* p. 248; *P. Z. S.* 1830, p. 8; *Bingham, Str. F.* ix. p. 164; *Oates, B. Br. Burm.* ii. p. 5. *Picus occipitalis*, *Sundev., Consp. Av. Pic.* p. 61. *Chloropicus occipitalis*, *Malh., Mon. Pic.* ii. p. 129, pl. lxxvii., figs. 4—6.—THE BLACK-NAPED GREEN WOODPECKER.**

Forehead and occiput scarlet; top of the head, a broad occipital stripe continued to the nape, and another over the eyes, above the lores, and a broad mandibular stripe black; lores, sides of the head and ear coverts greyish; hind neck, back, and scapulars green; rump and upper tail coverts brownish, the feathers edged with bright yellow; tail brown, the four middle feathers (outer webs) edged with greenish and obsoletely barred; primaries and their coverts brown, spotted with white, the primaries barred on the basal half of their inner webs; secondaries fulvous yellow on the outer webs and brown, barred with white on the inner; chin and upper part of throat grey; rest of lower plumage green, tinged with fulvous on the vent and under tail coverts; under wing coverts white, barred with brown. The *female* has the head black. Bill blackish brown; irides dull red; legs dull green.

*Length*.—13 inches; tail 4·5; wing 5·7; tarsus 1·1; bill from gape 1·8.

*Hab.*—Throughout the whole extent of the Himalayas, extending through Assam and Tipperah into Burmah. Common throughout Sikkim; hill ranges of Eastern Bengal and Afghanistan. In Burmah it has been found in all parts of the Province, except the southern half of Tenasserim. Breeds throughout the lower ranges of the Himalayas from Bhootan to Afghanistan from April to the middle of June, laying 5—6 eggs, pure white, and moderately glossy.

**1059. *Gecinus viridanus* (Blyth), Wald., P. Z. S. 1866, p. 539; Blyth and Wald., B. Burm. p. 76; Oates, B. Br. Burm. ii. p. 48. *Picus viridanus*, Blyth, J. A. S. B. xii. p. 1000. *Chloropicus dimidiatus* (Tem.), Malh., Mon., Pic. ii. p. 132, pl. lxxvi., figs. 4—6 (part). *Gecinus vittatus* (Vieill.), Salvad. Ucc. Born. p. 51 (part); Hume, Str. F. iii. p. 68; Armstrong, Str. F. iv. p. 310; Hume and Dav., Str. F. vi. p. 136; Hume, Str. F. viii. p. 87; Bingham, Str. F. ix. p. 163.—THE STRIATED GREEN WOODPECKER.**

Top of head and occipital crest scarlet; lores, ear coverts, and feathers under the eye greyish-brown; back, scapulars and tertiaries, also the upper wing coverts, green; rump and upper tail coverts yellowish-green; tail black, barred on the basal half with white; primaries and their coverts black, the primaries spotted with white on both webs; secondaries black, barred faintly with white on the outer webs and distinctly so on the inner, the margins of which are broadly green; a broad moustacial streak from the base of each side of the lower mandible enveloping the cheeks and continued on the sides of the throat black, the feathers margined and edged with white; chin, throat, breast, sides of the neck and breast fulvescent greenish, the latter shaded darker; rest of under surface of the body greenish white, striated with brown; under coverts whitish, barred with greenish brown. The *female* has the scarlet head of the male replaced by black. Bill with the upper mandible and terminal half of lower dark brown; the basal half of the latter yellow; irides red; legs and feet dusky green.

*Length*.—13 inches; tail 5; wing 5·4; tarsus 1·1; bill from gape 1·6.

*Hab*.—Whole of British Burmah (Arracan, Pegu, and Tenasserim), extending down the Malay Peninsula and to Sumatra, Java and Borneo; affects all kinds of jungle, especially the dry forests.

**1060. *Gecinus erythropygus*, Elliot, *Nouv. Arch.* i. *Bull.* p. 76, pl. iii.; *Oates, Str. F.* x. p. 191; *id.*, *B. Br. Burm.* ii. p. 52; *Wardlaw-Ramsay, P. Z. S.* 1874, p. 212, pl. xxxv. (*descr.*). *Gecinus nigrigenis*, *Hume, Proc. As. Soc. Beng.* 1874, p. 106; *id.*, *Str. F.* ii. pp. 444, 471; *id. and Dav., Str. F.* vi. p. 136; *Hume, Str. F.* viii. p. 87; *Bingham, Str. F.* ix. p. 163.—The RED-RUMPED GREEN WOODPECKER.**

Except the crown, which is crimson, the whole top and sides of the head are black; back, scapulars, wing and upper tail coverts yellowish green; rump fiery red; tail black, the feathers washed with green on the edges at the base; quills black, broadly barred with white on the inner webs, the secondaries broadly margined with green on the outer webs; tertiaries tipped and margined on the outer webs with green; chin and all parts below it to the abdomen yellow; rest of under surface ashy brown, crossed by bars of greenish-brown. The *female* has the head black; bill dark horny; irides sulphur yellow; legs dark green.

*Length*.—13 inches; tail 5·2; wing 6·3; tarsus 1·2; bill from gape 1·7.

*Hab*.—The drier portions of Tenasserim from Tonghoo to the Mooleyit mountain. Breeds, according to Oates, in the Thoungyeen valley. Eggs 2 (?) in number, pure white.

### Sub-Family.—CAMPEPHILINÆ.

Bill strong and wide at base, nearly straight; lateral ridge sometimes wanting.

### Gen. *Thriponax*.—*Cab. et Heine*.

Culmen sharp and slightly arched; gonys not half the length of under mandible; neck long and slender; wings and tail long; plumage sombre.

**1061. *Thriponax Hodgsoni*, *Ferd., Ill. Ind. Orn.* pl. 5; *id.*, *B. Ind.* i. p. 284; *Hume, Str. F.* iii. p. 67; iv. p. 390.—The GREAT BLACK WOODPECKER.**

Head with crest and mandibular stripe crimson; lower back, rump and middle of abdomen white; remainder of plumage black. The *female* has the crimson of the head replaced by black, except on the occiput.

Bill black; legs dark plumbeous; irides crimson.

*Length*.—19 inches; tail 7·5; wing 9; bill at front 2·3, width at base 2·3.

*Hab*.—South India, Travancore, Wynaad, Coorg, and Malabar Coast. *Thriponax Hodgei*, another sooty black species, with crimson head, is found in the Andamans.

**1062. *Thriponax Javensis* (Horsf.),** *Salvad., Ucc. Born.* p. 52; *Hume, Str. F.* iii. p. 67; *Wald., Trans. Zool. Soc.* ix. p. 146; *Bl., B. Burm.* p. 75; *Hume and Dav., Str. F.* vi. p. 135; *Hume, Str. F.* viii. p. 57; *Oates, B. Br. Burm.* ii. p. 27. *Picus Javensis*, *Horsf., Trans. Linn. Soc.* xiii. p. 175. *Picus leucogaster*, *Reinw. et Temm., Wagler Syst. Av. Pic.* sp. 7; *Temm., pl. Col.* 501; *Sundev., Av. Consp. Pic.* p. 9.

Whole head with occipital crest and patch on each side of under mandible scarlet; under surface of the body yellowish-white; rest of plumage black, except some white specklings on the throat and foreneck, and narrow margins to the feathers of the flanks and thighs. The *female* has only the posterior half of the crown scarlet, and has not the patches at base of lower mandible. Bill black; legs pale plumbeous; irides creamy or clear yellow.

*Length.*—17 inches; tail 7·5; wing 9; tarsus 1·3; bill from gape 2·4.

*Hab.*—Tenasserim and the Malay Peninsula, also the islands of Sumatra, Java and Borneo.

**1063. *Thriponax Feddeni* (Blanf.),** *Hume, Str. F.* viii. p. 409; *Bingham, Str. F.* ix. p. 162; *Oates, Str. F.* x. p. 190; *id., B. Br. Burm.* ii. p. 28. *Mulleripicus Feddeni* (Blanf.), *Blyth, J. A. S. B.* xxxii. 75. *Thriponax Jerdoni*, *Cab. et Hein., Mus. Hein.* iv. *Hefst.* ii. p. 105 (note); *Sundev., Consp. Av. pic.* p. 9. *Thriponax Crawfurdi*, *J. E. Gray apud, Bl., B. Burm.* p. 75; *Hume, Str. F.* iii. p. 65; *id. and Dav., Str. F.* vi. p. 134; *Hume, Str. F.* viii. p. 87.—THE WHITE-RUMPED BLACK WOODPECKER.

Whole head with crest and patch on each side of lower mandible scarlet; lower back, rump, abdomen, and much of the under wing coverts, as also the tips of the earlier primaries, and basal portion of all the quills white; rest of the plumage black, except the white speckling on the throat, foreneck and sides of the neck. The *female* differs in the same way as the preceding species. Bill bluish black; irides yellow; legs plumbeous.

*Length.*—16 inches; tail 6·6; wing 8·5; tarsus 1·3; bill from gape 2.

*Hab.*—British Burma; Pegu, Arracan and Tenasserim, inhabiting secondary jungle on the outskirts of forests.

### Gen. **Mulleripicus.**—Bonap.

General characters of *Thriponax*; toes short; the anterior longer than the versatile one.

**1064. *Mulleripicus pulverulentus* (Tem.),** *Ferd., B. Ind.* i. p. 284, No. 168; *Hume, Str. F.* iii. p. 66; *id. and Dav., vi.* p. 133; *Hume, Str. F.* viii. p. 87; *Bingham, Str. F.* ix. pp. 162, 472. *Picus pulverulentus*, *Temm., Pl. Col.* 389; *Sundev., Consp. Av. Pic.* p. 10. *Dryopicus gutturalis*, *Malh., Mon. Pic.* i. p. 51, pl. xv., figs. 4—7. *Alophonerpes pulverulentus*, *Salvad., Ucc. Born.* p. 51; *Bl., B. Burm.* p. 75; *Oates, B. Br. Burm.* ii. p. 29. *Picus gutturalis*, *Valenc. Dict. Sci. Nat.* xl. p. 178.—THE GREAT SLATY WOODPECKER.

Whole top of the head, nape, sides, and back of the neck ashy, the feathers minutely speckled with greyish white; upper surface of the body, including the wing coverts, slaty blue; upper tail coverts brown; tail brown, washed with ashy; quills dark brown, the margins of their outer webs slaty; sides of the head ashy, the ear coverts rather darker; cheeks with a patch of red; chin and throat deep saffron yellow; under surface of the body dull slaty or ashy, the feathers with whitish specks and streaks. The *female* has not the red cheek patch. Bill bluish white; the culmen and tip black; irides dark hazel brown; legs dark plumbeous.

*Length*.—20·5 inches; tail 7·5; wing 9·4; tarsus 1·5; bill from gape 3·0.

*Hab.*—British Burmah, in Pegu, Arracan, the Karin hills and Tenasserim. It extends southwards through the Malay Peninsula to Sumatra, Java, Borneo, and Cochin-China. Northwards it is recorded from the Khasia hills, and it is said to occur at the foot of the Himalayas, in Oudh and Nepaul. Captain Bingham is said to have found the nest of this great Slaty Woodpecker, one of the Oriental giants of the family, in Tenasserim during April. Eggs, two in number only, white and glossy.

### Gen. *Chrysocolaptes*.—*Blyth*.

General characters of the last; lateral ridge medial at first, then parallel to and nearer the margin; head crested; tail short and square; four central feathers, equal; feet strong; hind toe longer than the anterior one.

**1065. *Chrysocolaptes strictus* (Horsf.),** *Salvad, Ucc. Borneo* p. 48; *Hume, Str. F.* viii. p. 154; *Butler, Str. F.* ix. p. 238; *Oates, B. Br. Burm.* ii. p. 53. *Picus striatus*, *Horsf., Trans. Linn. Socy.* xiii. p. 176. *Picus guttacristatus*, *Tick., J. A. S. B.* ii. p. 578. *Picus sultaneus*, *Hodgs., J. A. S. B.* vi. p. 105; *Sundev., Consp. Av. Pic.* p. 79. *Indopicus delesserti*, *Malh., Mem. acad. Metz.* 1849, *t.c.* p. 77, p. lxiv., figs. 1—3. *Indopicus strictus*, *Malh. t.c.* p. 80, pl. lxv., figs. 1—5. *Chrysocolaptes sultaneus*, *Ferd., B. Ind.* 1. p. 281, No. 166; *Ball, Str. F.* ii. p. 391; *Hume, Str. F.* iii. p. 64; *Armstrong, Str. F.* iv. p. 310; *Inglis, Str. F.* vi. p. 26; *Hume and Dav., Str. F.* vi. p. 133; *Hume, Str. F.* viii. p. 87. *Chrysocolaptes delesserti*, *Hume, Nests and Eggs Ind. B.* p. 123; *Bourdillon, Str. F.* iv. p. 380; *Hume, Str. F.* viii. p. 87. *Chrysocolaptes gutticristatus*, *Blyth and Wald., B. Burm.* p. 75.—THE SOUTHERN GOLDEN-BACKED WOODPECKER.

Frontal band at base of upper mandible ruddy brown, continued through the eye, and gradually changing into blackish as a stripe on the neck; top of head, crest, and nape deep crimson; back of neck mottled with black and white; superciliary streak over the eye, over the ear coverts, another sub-orbital one reaching to under the ear coverts, a third and fourth from the gape down the sides of the throat, black; the space between these two latter white; ear coverts black; upper back, scapulars, wing coverts and tertiaries golden

yellow; lower back and rump shining carmine red; upper tail coverts and tail black; primaries and their coverts blackish, 3—4 spots of white on the inner webs of the primaries; secondaries brown, barred with white on the inner webs; their outer margin golden yellow; chin and throat white, with a mesial black line; the foreneck also white, the feathers edged with black; rest of lower plumage fulvous white, the feathers edged with black; less numerously black-edged on the lower abdomen, vent, and under tail coverts; under wing coverts white, barred with black. The *female* has the crimson head of the male replaced by black, spotted with white. Bill, bluish brown, or slaty; irides buffish yellow; legs greenish blue.

*Length*.—12·5 to 13 inches; wing 5·9 to 7·3; tail 4·5 to 4·8; tarsus 1·2; bill from gape 2 to 2·2.

*Hab.*—Nearly throughout the whole continent of India, in suitable localities, north, north-west, south, and east. In the Himalayas it reaches to Nepaul and southward through Assam, Sikkim, to the Indo-Burmese Countries, the Malay Peninsula, Siam, and the islands of Sumatra, Java, and Borneo. It is recorded from Malabar, the Neilgherries, Central and South India, Sikkim and Nepaul. In Burmah, except on the higher mountains, it is said to be found over every portion, affecting alike dense forests and clearings. Breeds on the Neilgherries at elevations of from 5,500 to 7,000 feet in December, January, and February. Eggs, one only, pure white and glossy.

**1066. *Chrysocolaptes festivus* (Bodd.), *Jerd.*, *B. Ind.* i. p. xiv., *Supplement*, No. 167; *Hume*, *Str. F.* i. p. 373; vii. p. 206. *Chrysocolaptes melanotus*, *Blyth*, *J. A. S. B.* xii. p. 1005. *Picus goensis*, *Gmel.*, *Syst. Nat.* i. p. —. *Chrysocolaptes goensis*, *Jerd.*, *B. Ind.* i. p. 282, No. 167.—**  
The BLACK-BACKED WOODPECKER.

Forehead black, speckled with white; crown and occiput crimson; lores, streak behind the eye to the nape, hind neck and interscapulars white; another black streak from the eye down the sides of the neck; back, scapulars, rump and tail black, tinged with aureous on the scapulars; wing coverts and secondaries bright golden yellow; primaries and their coverts dusky black, the primaries with large roundish spots; chin and throat white, with three black stripes; rest of under surface of the body white, more or less streaked with black, which disappear on the abdomen, vent, and under tail coverts. Bill dusky blackish; legs and feet horny plumbeous; irides crimson.

*Length*.—12·5 to 13 inches; tail 3·5; wing 6·25; bill at front 1·9 to 2.

*Hab.*—Southern and Central India and the Southern Mahratta Country. Jerdon says he found it in the jungles of the eastern ghauts, in parts of Mysore, between Bangalore and the Neilgherries, in the Vindhyan mountains near Mhow, and in the hilly and jungly districts of Nagpore, between that and the Nerbudda; also in the Midnapore jungles.

Gen. *Hemicercus*,—Swains.

Bill straight, considerably compressed, the lateral ridge slight near the margin; wings long, nearly reaching (when closed) to the end of the tail; tail very short, broad; neck short, very slender; feet very large; versatile toe always longer than the anterior one. Woodpeckers of diminutive size and stout make. No red whatever in their plumage.

**1067. *Hemicercus cordatus*, *Ferd., Ill. Ind. Orn.* pl. 40; *Hume, Str. F.* iii. p. 61; iv. p. 389; v. p. 25. *Picus canente*, *Lesson., Cent. Zool.* pl. 73; *Sundev., Consp. Av. Pic.* p. 11. *Micropicus canente*, *Malh., Mon. Pic.* i. p. 190, pl. xlii, figs. 1—3. *Hemicercus canente*, *Ferd., B. Ind. i.* p. 280, No. 165; *Hume, Str. F.* iii. p. 61; iv. p. 389; *Blyth and Wald., B. Br. Burm.* p. 74; *Inglis and Hume, Str. F.* v. p. 25; *Hume and Dav., Str. F.* vi. p. 127; *Hume, Str. F.* viii. p. 87; ix. p. 112; *Bingham, Str. F.* ix. p. 161; *Oates, B. Br. Burmah* ii. p. 30.—THE HEART-SPOTTED WOODPECKER.**

Forehead, crest, top and sides of the head, sides of the neck, back, scapulars, primaries, secondaries and tail black; frontal zone black, very minutely speckled with whitish; rump buffish yellow; upper tail coverts black, very narrowly edged with buffish yellow or pale yellowish white; wing coverts and tertiaries buffish or pale yellow, the feathers with a heart-shaped spot near the tip; chin, cheeks, and throat yellowish buff; a stripe from the lower mandible running under the ear-coverts, yellowish-white; under surface of the body from the throat olive slate, or blackish green; under tail coverts black, the feathers tipped narrowly with buffish. The *female* has the forehead and crown buffy yellowish. Bill black; irides reddish; legs and feet greenish-black.

*Length*.—6·4 to 7 inches; tail 1·75 to 2; wing 3·6 to 3·8; tarsus 0·7; bill from gape 1.

*Hab.*—Southern and Central India and the Indo-Burmese countries. Found in the Malabar forests, above and below the ghauts and in the forests in the Chanda district.

In British Burmah, Oates says, it occurs locally throughout the province. It is recorded from Arracan, Pegu, Karin hills east of Tonghoo, and from throughout Tenasserim. In Cachar it has also been found. According to Capt. Bingham, who found the nest in March, it lays only two eggs.

**1068. *Hemicercus sordidus* (*Eyton*), *Salvad., Ucc. Born.* p. 46; *Tweed., Ibis*, 1877, p. 291; *Hume and Dav., Str. F.* vi. p. 291; *Hume, Str. F.* viii. p. 87. *Dendrocopus sordidus*, *Eyton, Ann. Nat. Hist. Ser. 1.* xvi. p. 229. *Picus sordidus*, *Sundev., Consp. Av. Pic.* p. 10. *Hemicercus brookeanus*, *Salv., Ucc. Born.* p. 44.—EYTON'S BUFF WOODPECKER.**

Forehead and the whole crown crimson, tapering to a point on the occiput; the sides of the head, the whole neck, the hinder part of the elongated nuchal crest, chin, throat and breast olive slate colour; back, scapulars, wing coverts



and tertiaries black, each feather broadly edged with yellowish and also with a yellowish bar across the middle; lower back olive grey; rump and upper tail coverts buffy yellow, the longer feathers of the latter black, tipped with yellowish; tail black, the outer feathers barred with yellowish; primaries black, the inner webs broadly edged with yellowish at the base; secondaries black, notched with yellowish on both webs; abdomen, flanks and under tail coverts black, the feathers edged with yellowish; under wing coverts uniform pale buff. The *female* differs in having no crimson on the head, the whole crown being of the same olive slate colour as the other parts. The *young male* has the crown buff, narrowly barred with black, and the occipital crest dull scarlet varied with slaty grey. The young female has the crown and occipital crest plain dull buff. (*Oates*.)

*Length*.—5·5 inches; tail 1·5; wing 3·4; tarsus 0·6; bill from gape 1·1.

*Hab*.—Tenasserim, in the extreme south, as a straggler from the Malay Peninsula. It is also found on the Islands of Sumatra and Borneo.

#### Gen. *Picus*.—*Linn*.

Bill moderate, compressed, culmen straight and sharp, lateral ridge distinct about midway between the culmen ridge and margin, which it joins about the middle of the length of the bill; gonys long; versatile toe longer than the anterior; plumage black, sometimes spotted or banded with white.

**1069. *Picus himalayanus*, *Fard. and Selby, Ill. Ind. Orn.* pl. 116; *Ferd., B. Ind.* i. p. 269, No. 154. *Picus assimilis*, *Natterer, apud. Malh., Mon. Pic.* pl. lxxiii.—The HIMALAYAN PIED WOODPECKER.**

A narrow albescent frontal band, followed by a red and black mottled, crimson crest; lores, round the eye and ear coverts white; a black moustacial stripe from the base of each side of the lower mandible, extending to below the ear coverts, and along the nape and sides of the neck; a small white demi-collar posteriorly on the neck; back, interscapulars, and most of the scapulars, also the rump and upper tail coverts, black; quills black, with oval spots of white on both webs; a wing spot; tail with the two central feathers unspotted black, the two outermost feathers on each side white with black bars, the next pair with some white bars on the outer web only; under surface of the body sullied or rufescent white; under tail coverts crimson. The *female* has a black instead of crimson cap of the male. Bill horny black, paler on the under mandible; irides red brown; legs horny black.

*Length*.—9·5 to 10 inches; tail 3·5; wing 5·5; bill at front 1·25.

*Hab*.—N.-W. Himalayas. Common at Cashmere and the lower ranges west of Sikkim. Occurs at Murree and Kotegurh. Breeds, according to Hume, freely over the lower ranges of the Himalayas, at elevations of from 3,000 to 8,000 feet, excavating holes in oak trees, and laying from the middle of April to the end of June. Eggs, 4—5 in number, pure white and very

glossy. They vary in length from 0·97 to 1·3 inch, and in breadth from 0·72 to 0·78 inch.

**1070. *Picus majoroides* (Hodgson), Gray, Zool. Misc. and Cat. B. Nepal; Ferd., B. Ind. i. p. 270, No. 155. *Dendrocopus Darjeelingensis*, Blyth, J. A. S. B. xiv. p. 196. *Picus Hodgsonii*, Malherbe, Mon. Pic. i. p. 2.—THE DARJEELING BLACK WOODPECKER.**

Like *P. Himalayanus*; tail with the three outer feathers irregularly banded with white; sides of neck and under surface of the neck in front and breast pale isabelline; breast and abdomen isabelline with longitudinal streaks of black. Bill and legs plumbeous; irides brown.

*Length*.—8 inches; tail 2·8; wing 4·75; bill at front 1·75.

*Hab*.—S.-E. Himalayas, Nepal, Sikkim and Darjeeling.

**1071. *Picus cathpharius*, Hodgson, J. A. S. B. xii. p. 1006; Malh., Mon. Pic. i. p. 80; Sundev., Consp. Av. Pic. p. 25; Ferd., B. Ind. i. p. 271, No. 156; Hume, Nests and Eggs Ind. B. i. p. 271.—THE LESSER BLACK WOODPECKER.**

Like *P. majoroides*; two outer tail feathers barred with white, the next spotted on the outer web only; chin whitish; under surface fulvescent, darker and more rusty on the breast, while the sides of the breast, abdomen and under tail coverts are covered with longitudinal black streaks; the spots on the breast coalesce and form a crimson gorget; occiput crimson, also the olive running from the ear coverts and extending to the crimson gorget. The female has no crimson on the head, and on the gorget and the under surface of the body is much whiter than in the male. Bill bluish white; legs plumbeous; irides red brown.

*Length*.—7 inches; wing 4; tail 2·5; bill at front 0·9.

*Hab*.—S.-E. Himalayas, Nepal, Sikkim and Bhootan. Breeds in Nepal during April. Eggs pure white.

**1072. *Picus scindianus* (Gould.), Horsf. and Moore, Cat. Mus. E. I. C. ii. p. 671; Ferd., B. of India i. p. 273, No. 158; Hume, Ibis, 1870, p. 529; Ferd., Ibis, 1872, p. 7; Hume, Str. F. i. p. 170; Lahore to Yarkand, pl. ii.; Murray, Hdbk., Zool., &c., Sind, p. 130.—THE SIND PIED WOODPECKER.**

*Adult Male*.—Forehead, lores, sides of the head, ear coverts, supercilia and breast white, tinged buffy on the forehead, or a soiled white; a very narrow dark line above each supercilium; a dark stripe from the lower mandible extending down each side of the throat, projecting to the lower side of the breast, and joining the back at the shoulder; crown of the head mixed crimson and black; back, rump, upper tail coverts and centre tail feathers glossy black, with a dusky tinge; scapulars and the adjacent wing coverts white, the remainder of the wing coverts black with a few white spots; quills

brownish black, spotted with white on both webs, forming white wing bars, of which there are four on the primaries and three on the secondaries; lateral tail feathers black, barred and tipped with white; lower parts white, with a few dusky streaks on the flanks and abdomen; middle of abdomen and lower tail coverts crimson. Bill blackish above, bluish grey below, 1·25 inch long; legs dusky; irides dull crimson.

*Length*.—8·5 to 8 75 inches; wing 4·9 to 5; tail 3. The *Adult Female* has the crown black, and is smaller than the male.

*Hab.*—Sind, Beloochistan, South Afghanistan, Punjab, in the Salt Range, at Attock, Rawulpindee, Peshawur and Cashmere. In Sind it is resident, and breeds in April.

**1073. *Picus macii*, Vieill., *Nouv. Dict. d' Hist. Nat.* xxvi. p. 80; *Malh., Mon. Pic.* i. p. 96, pl. xxiv., fig. 14; *Temm., Pl. Col.* 59, fig. 2; *Gr. and Hardw., Ind. Zool.* i. pl. 32; *Ferd. B. Ind.* i. p. 272; *Sundev., Consp. Av. Pic.* p. 25; *Hume, Nests and Eggs*, p. 122; *Cripps, Str. F.* vii. p. 261; *id., Str. F.* viii. p. 87; *Scully, Str. F.* viii. p. 245; *Oates, B. Br. Burm.* ii. p. 33. *Dendrotypes macii*, *Blyth, B. Burm.* p. 77.—THE INDIAN FULVOUS-BREASTED SPOTTED WOODPECKER.**

Frontal band at base of upper mandible brown, rest of the head crimson; a patch on the nape, upper back and wing coverts, also a stripe from the lower mandible, down the sides of the throat to the sides of upper breast, black; interscapulars and lower back and rump also black, but barred with white; upper tail coverts and tail black, except four middle feathers which are barred with white; under surface of the body fulvescent, streaked sparingly with black on the breast and abdomen, and barred with the same on the sides of the body and flanks; vent and under tail coverts scarlet. The female has the head black instead of crimson. Bill plumbeous dusky, horny at base; feet greenish plumbeous.

*Length*.—7·5 inches; tail 3; wing 4·1; tarsus 0·7; bill from gape 1·2.

*Hab.*—Through Northern India to the base of the Himalayas, extending into Assam, Burmah and the Malay Peninsula. It is found in the hill tracts of Eastern Bengal, also in Lower Bengal. It has been recorded from Mussoorie, Murrie and Calcutta, also the Arracan and Tenasserim divisions of British Burmah.

**1074 *Picus analis* (Temm.), Horsf., *Zool. Res. Java Gen. Cat.* *Fam.* xii.; *Malh., Mon. Pic.* i. p. 99, pl. xxiv., figs. 5—7; *Sundev., Consp. Av. Pic.* p. 25; *Hume, Str. F.* iii. p. 57; *Wald., Trans. Zool. Soc.* ix. p. 148; *Armstrong, Str. F.* iv. p. 309; *Hume, Str. F.* viii. p. 87; *Oates, Str. F.* x. p. 190; *Oates, B. Br. Burm.* ii. p. 35. *Picus pectoralis*, *Blyth, J. A. S. B.* xv. p. 15. *Dendrotypes analis*, *Salvad., Ucc. Born.* p. 40; *Blyth and Wald., B. Burm.* p. 78.—THE SPOTTED-BREASTED PIED WOODPECKER.**

Similar to *Picus macii*, except that the upper back, rump, and interscapulars, also the upper tail coverts and all the tail feathers are barred with white; throat and sides of the head pure white; under surface fulvescent, barred with white; vent and under tail coverts faintly washed with red; *breast spotted* with black. Bill bluish black, paler at the base; iris brown; legs plumbeous.

*Length*.—7 inches; tail 2·5; wing 4; tarsus 0·7; bill from gape 1.

*Hab*.—British Burmah; locally distributed in Pegu, and also in the neighbourhood of Thayetmyo. Extends down to the Islands of Sumatra, Java, and Borneo. Recorded also from Cochin-China.

**1075. *Picus atratus***, *Blyth, J. A. S. B.* xviii. p. 803; xxviii. p. 412; *Malh., Mon. Pic.* 1. p. 72; *Sundev., Consp. Av. Pic.* p. 25; *Wald, Ibis*, 1876, p. 343; *Hume and Dav., Str. F.* vi. pp. 123, 500; *Hume, Str. F.* viii. p. 87. Dendrotypes *atratus*, *Blyth and Wald., B. Burm.* p. 77.—The STRIPE-BREADED PIED WOODPECKER.

Like *Picus macii*, except that the under plumage is boldly streaked with black; the breast is tinged with crimson; crest lengthened; *six central tail feathers* are unspotted black, and the sides of the head and the throat are silvery white. Bill dull black, horny below; legs plumbeous; irides deep brown.

*Length*.—7·75 to 8 inches; tail 3·3 to 3·4; wing 4·5; tarsus 0·75; bill from gape 1·2.

*Hab*.—British Burmah, to which it is said by Oates to be confined. It has been procured on the Karin hills and also in Tenasserim.

**1076. *Picus brunneifrons***, *Vigors, Proc. Zool. Soc.* 1831; *Gould, Cent. Him. B.* pl. 52; *Malh., Mon. Pic.* 1. p. 102; *Jerd., B. Ind.* i. p. 273, No. 159.—The BROWN-FRONTED WOODPECKER.

Narrow frontal band at base of upper mandible brown; crown golden yellow; occiput crimson; lores and ear-coverts pale brown; upper plumage black, barred with white; tail black, only the two outer pairs of feathers on each side barred with white; a white streak from below the ear coverts to the sides of the neck, and another behind the eye; a white patch on the sides of the neck, and a dark brown streak from the lower mandible; beneath sullied white, streaked with brown; vent and under tail coverts pale crimson. Bill, plumbeous; irides brown.

*Length*.—8 to 8·7 inches; tail 2·75; wing 4·5; bill at front 0·7.

*Hab*.—N.-W. Himalayas, extending to Nepal. Found at Mussoorie and Simla. Breeds in the Himalayas. Eggs, 4 in number, pure white and glossy.

**1077. *Picus mahrattensis***, *Lath., Ind. Orn. Suppl.*, p. xxxi.; *Malh., Mon. Pic.* 1. p. 105, pl. xxviii, figs. 1—3; *Sundev., Consp. Av. Pic.* p. 31; *Jerd., B. Ind.* i. p. 274; No. 160; *Hume, Nests and Eggs Ind. B.* p. 122; *Ball, Str. F.* ii. p. 390; *Hume, Str. F.* iii. p. 58; *Legge, B. Ceylon*,

p. 184; *Hume, Str. F.* viii. p. 87; *Oates, B. Br. Burm.* iii. p. 37; *Murray, Vert. Zool. Sind.* p. 114. *Picus aurocristatus*, *Tick., J. A. S. B.* xxxii. p. 75. *Liopipo maharattensis*, *Blyth, B. Burm.* p. 78.—THE YELLOW-FRONTED PIED WOODPECKER.

Forehead and crown of head pale yellow; occiput crimson in the male, yellow in the female; lores, ear coverts, round the eyes, sides of neck, chin, throat and upper breast white; a dusky line from the nape extending to the sides of the breast; back, wings, and tail black, banded with white; lower breast and abdomen brown, with pale edges to the feathers; centre of abdomen and vent crimson; under tail coverts whitish, marginally streaked dusky brown. Bill bluish plumbeous, dark on the culmen and tip of both mandibles; eyelids dark brown; irides deep red; legs and feet plumbeous.

*Length.*—7·5 to 7·75; wing 4 to 4·5; tail 2·5; bill at front 1·1.

*Hab.*—Throughout India and Ceylon. Occurs in Sind, Punjab, N.-W. Provinces, Kutch, Kattiawar, Rajputana (Jodhpore and Sambhur Lake), North Guzerat and the Deccan. Has also been recorded from North Pegu. Although nothing is on record of its nidification in Sind, it is not improbable that it breeds in June and July, as young birds not fully fledged have been collected in September. In other parts of the country it breeds from February to April. Eggs glossy white.

**1078. *Picus canicapillus*,** *Blyth, J. A. S. B.* xiv. p. 197; *Malh., Mon. Pic.* i. p. 141; *Sunder., Consp., Av. Pic.* p. 29; *Oates, B. Br. Burm.* ii. p. 36. *Yungipicus canicapillus*, *Wald., P. Z. S.* 1866, p. 539; *Hume, Str. F.* iii. p. 59; *Blyth, B. Burm.* p. 78; *Armstrong, Str. F.* iv. p. 309; *Hume, Str. F.* v. p. 25; *id.,* viii. p. 87. *Iyngipicus canicapillus*, *Hargitt, Ibis*, 1882, p. 39.—THE BURMESE GREY-HEADED PIED WOODPECKER.

Forehead and crown grey; streak over the eye, nape, hind neck, patch on the side of the neck and the lesser and median wing coverts black; on each side of the head a patch of bright scarlet; a streak from the eye to the occiput white; ear coverts brown; quills, back, rump and upper tail coverts black, barred with white; tail black, spotted with white; plumage of the under surface dull white, with longitudinal streaks of blackish or dusky brown. The female wants the scarlet patches on the sides of the occiput. Bill plumbeous; irides hazel; legs plumbeous.

*Length.*—5·5 inches; tail 1·8; wing 3·2; tarsus 0·55; bill from gape 0·7.

*Hab.*—British Burmah, Cachar, Tipperah and Assam; also the Malay Peninsula down to Singapore and Cochin-China. Oates records it from Pegu, Tenasserim, Karenne and Arracan. Affects jungle of brushwood generally.

**1079. *Picus pumilus*** (*Hargitt*), *Oates, B. Br. Burm.* ii. p. 37. *Iyngipicus pumilus*, *Hargitt, Ibis*, 1881, p. 599; *id., Ibis*, 1882, p. 37.—HARGITT'S GREY-HEADED PIED WOODPECKER.

Similar to *P. canicapillus* but smaller; central four tail feathers spotless black, or with merely one or two small white specks. (*Oates.*)

*Length.*—5 inches; tail 1·5; wing 2·8; bill at front 0·5 to 0·6.

*Hab.*—Malewoon in Southern Tenasserim.

**Gen. Hypopicus.**—*Bonap.*

Bill slightly longer than in *Picus*, and slender; lateral ridge inconspicuous; wings and tail long; hind toe equal to the length of the outer one; plumage chestnut.

**1080. Hypopicus hyperythrus** (*Vigors*), *Gould, Cent. Him. B.* pl. 50; *Ferd., B. Ind.* i. p. 276, No. 161; *Hume, Nests and Eggs Ind. B.* p. 123. *Picus hyperthrus*, *Vigors, P. Z. S.* 1831.—The RUFOUS-BELLIED PIED WOODPECKER.

Plumage black; the wings white spotted, the lesser coverts unspotted; head and nape crimson, extending to the sides of the neck; lores, orbital region, ear coverts, chin and cheeks whitish; behind the ear coverts bay; tail black, the two outermost tail feathers with white bars at the tip only; plumage of the under surface rufous bay.

Bill black above, pale yellow beneath; legs plumbeous.

*Length.*—9 inches; wing 5 to 5·5; tail 3·5; bill 1·1; central tail feathers considerably elongated.

*Hab.*—The S.-E. Himalayas; Kumaon, Pethoragurh, and Simla.

**Gen. Iyngipicus.**—*Bonap.*

Woodpeckers of small size, with spotted or banded white and black plumage; lateral ridge conspicuous near the culmen; bill barely straight; tail with two middle feathers elongated; outer feathers soft and rounded.

**1081. Iyngipicus rubricatus**, *Blyth, J. A. S. B.* xiv. p. 197; *Ferd., B. Ind.* i. p. 276, No. 162; *Hume, Str. F.* iii. p. 60. *Picus semicoronatus*, *Malh., Mon. Pic.* i. p. 60.—The DARJEELING PIGMY WOODPECKER.

Occipital crescent crimson, forehead and crown ashy brown; nape and hind neck black; below the eyes a broad black streak; a white patch behind the eye; back, scapulars and rump, black, barred across with white; upper tail coverts spotless black; wings spotted with white; tail with the four middle feathers black, the next pair white on the outer margin, and the outermost and penultimate barred on outer web with white; throat and plumage of the lower surface whitish, with narrow dark mesial streaks to the feathers. Bill plumbeous; irides red; feet brown.

*Length.*—5·5 inches; wing 3·2 to 3·5; tail 1·75; bill 0·6.

*Hab.*—S.-E. Himalayas, in Nepal and Sikkim.

**1082. *Iyngipicus pygmæus* (Vigors), *Ferd.*, *B. Ind.* i. p. 277, No. 163; *Hume, Nests and Eggs Ind.* *B.* p. 123; *Hume, Str. F.* iii. p. 60.—The HIMALAYAN PIGMY WOODPECKER.**

Head pale ashy, tinged with brown and bordered with dusky; sincipital tuft very pale crimson; upper plumage black, barred with white; a brown streak from the eye continued down the sides of the neck; another from above the eye down the sides of the neck to the base of the neck, which forms a collar and joins the white of the sides of the breast; quills black, spotted with white; tail blackish, the two outermost banded with white and the third margined with the same; beneath whitish, with mesial dusky streaks. Bill plumbeous; irides red; feet brown.

*Length*—5·75 inches; *wing* 3·5; *tail* 2; *bill* at front 0·6.

*Hab.*—N.-W. Himalayas to Nepaul; Kumaon, Ranibagh.

**1083. *Iyngipicus Hardwickii*, *Ferd.*, *B. Ind.* i. p. 278, No. 164. *Picus Hardwickii*, *apud Ferd.*, 2nd *Suppl. Cat.* 209. *Picus moluccensis*, *apud Gray and Hardw.*, *Ill. Ind. Zool.* pl. *Iyngipicus nanus*, *Hume, Nests and Eggs Ind.* *B.* p. 123; *id.*, *Str. F.* iii. p. 60.—The SOUTHERN PIGMY WOODPECKER.**

Head pale rufescent or earthy brown; a white band from above the eye down the sides of the neck, and another pale brown one from below the eye and a narrow orange streak; back, scapulars, rump and upper tail coverts sooty brown, barred with white; plumage of the under surface sullied white, with pale brown streaks; quills dusky brown, spotted with white. Bill and legs plumbeous; irides pale yellow.

*Length.*—5 to 5·5 inches; *tail* 1·5; *wing* 3; *tarsus* 0·4; *bill* at front 0·4.

*Hab.*—Southern, Central and Northern India. Affects open spaces of forest jungle, gardens and groves. Breeds in the plains of Upper India during March and April. Eggs, pure white, and moderately glossy; a very broad oval.

#### Gen. *Meiglyptes*.—*Swains.*

Bill moderately long; culmen much curved; nostrils not plumed.

**1084. *Meiglyptes grammithorax* (Malh.), *Nicholson, Ibis*, 1879, p. 165; *Hume, Str. F.* viii. p. 497; *Oates, B. Br. Burm.* ii. p. 59. *Phaiopicus grammithorax*, *Malh.*, *Mon. Pic.* ii. p. 12, pl. xlvi., figs. 4—6. *Picus tristis* (*Horsf.*), *Sundev., Conspect. Av. Pic.* p. 91 (part); *Salvad., Ucc. Born.* p. 56 (part); *Blyth, B. Burm.* p. 77 (part); *Hume and Dav., Str. F.* vi. p. 131 (part).—HORSFIELD'S BARRED WOODPECKER.**

Head and neck all round black, closely barred with narrow lines of pale buff; ear coverts tinged with yellowish; lores, feathers round the eyes and chin

yellowish buff; a patch of crimson on each side of the base of the lower mandible; back, scapulars, wing coverts and tertiaries black, broadly barred with yellowish buff; rump yellowish buff; tail coverts black, barred with buff; primaries, secondaries, and feathers of the tail black, both webs with bar-like buff spots; lower plumage black, barred with buff, the bars broader than on the throat; under wing coverts buff. The *female* has not the crimson patches at base of lower mandible. (*Oates*.) Bill black; irides deep brown; legs dingy or dirty green. (*Davison*.)

*Length*.—6·5 inches; tail 2·2; wing 3·7; tarsus 0·7; bill from gape 0·9.

*Hab*.—Tenasserim, at Bankasoon and Mergui, extends down the Malay Peninsula, and is found in Sumatra, Borneo, and Cochinchina. Affects dense forest, and *Oates* adds that it appears never to descend to the ground.

**1085. *Meiglyptes jugularis*, Blyth, J. A. S. B. xi., p. 195; Sundev., *Consp. Av. Pic.* p. 93. *Phaiopicus jugularis*, Malherbe, *Mon. Pic.* ii. p. 11. *Meiglyptes jugularis*, Hume, *Str. F.* iii. p. 63; Blyth and Wald., *B. Burm.* p. 77; Hume and Dav., *Str. F.* vi. p. 132; Hume, *Str. F.* viii. p. 87; Bingham, *Str. F.* ix. p. 16.—BLYTH'S BLACK AND FULVOUS WOODPECKER.**

Forehead, crown, sides of the head, chin and throat black, narrowly barred with buff; an indistinct patch of crimson on either side of the base of the lower mandible; full occipital crest, back, upper tail coverts, tail, and the whole lower plumage black; sides and back of the neck, a large patch on either side of the breast, rump, all the wing coverts next the body, and bases of the tertiaries buff; remainder of the wing coverts black, tipped with buff; sides of the body obsoletely barred with buff; quills black; outer webs of the primaries and secondaries sparingly spotted with buff, the inner webs with bar-like spots of white; tips of the tertiaries black, with one or two bars of buff; under wing coverts buff. The *female* has not the crimson patch at the base of the lower mandible. (*Oates*.) Bill black; irides dark brown; legs dull bluish.

*Length*.—7·6 inches; tail 2·3; wing 4; tarsus 0·8; bill from gape 1.

*Hab*.—British Burmah, Arracan, Pegu and Tenasserim. Habits same as the last.

**1086. *Meiglyptes tukki* (Less.), *Salvad., Ucc. Born.* p. 57; Hume and Dav., *Str. F.* vi. p. 132; Hume, *Str. F.* viii. p. 87; *Oates, B. Br. Burm.* iii. p. 61. *Picus tukki*, Less., *Rev. Zool.*, 1839, p. 167. *Hemicircus brunneus*, Eyton, *P. Z. S.* 1839, p. 106. *Picus brunneus*, Sundev., *Consp. Av. Pic.* p. 91. *Phaiopicus pectoralis* (Licht.), *Malh., Mon. Pic.* ii. p. 8, pl. xlvii., figs. 5—7.—THE BUFF-NECKED BARRED WOODPECKER.**

Forehead, crown, upper neck, and sides of the head olive brown; chin and throat black, narrowly and closely barred with buff; a crimson patch on each



side of the base of the lower mandible, and a broad creamy buff streak on each side of the neck; upper plumage, including the wings and tail, brown, narrowly barred with buff, interrupted on the quills and tail; upper breast blackish, narrowly barred with buff; remainder of lower plumage buffy brown, barred with lighter buff, the bars almost obsolete on the abdomen; under wing coverts buff. The *female* wants the crimson patch below the sides of the lower mandible. (*Oates*.) Legs and feet dull or brownish green; irides brown; bill plumbeous blue below, black above.

*Length*.—8 inches; tail 3; wing 4·1; tarsus 0·8; bill from gape 1·1.

*Hab.*—British Burmah, Tenasserim; also the Malay Peninsula, Sumatra and Borneo.

### ORDER.—PSITTACI.

Toes in pairs; bill, wings and tail various.

### Family.—PSITTACIDÆ.

Bill large and powerful, thick, and strong, much arched or curved, sometimes notched, the hooked tip overhanging the lower mandible, which is short and obtusely rounded in front with a cutting edge; base of bill covered with a naked skin, in which are situated the small round nasal orifices; wings generally rounded and moderately long; 2nd quill usually the longest; tail various, either short and graduated, or with 2—3 elongated middle feathers; tarsi short, scutate; toes zygodactyle (in pairs); claws curved. The birds comprised in this family are noted for the beauty of their plumage. They are sub-divided chiefly according to the form of the bill and tail into several groups—(1) *Psittacinæ* or true Parrots, with a notched or crenate bill and short tails; head not crested. (2) *Loriinæ* or Lories, species with gaudy plumage and of small size. (3) *Palæorninæ* or Parrakeets, with long tails, generally wedge-shaped. (4) *Platycerninæ*, Australian Parrots. (4) The Macaw or *Arainæ*; and (5) The Cockatuas.

### Sub-family.—PSITTACINÆ.

Bill moderately long, arched, and strong, the edge crenated. Head without crest; tail short.

### Gen. *Psittinus*.—*Blyth*.

General characters of the sub-family. Of small size.

**1087. *Psittinus incertus*** (*Shaw*), *Salvad., Ucc. Born.* p. 25; *Blyth and Wald., B. Burm.* p. 58; *Hume and Dav., Str. F.* vi. pp. 120, 500; *Hume, Str. F.* viii. p. 87; *Oates, B. Br. Burm.* ii. p. 147. *Psittacus incertus*, *Shaw, Nat. Misc.* xviii. pl. 769. *Psittacus malaccensis*, *Lath., Ind. Orn.* i. p. 130. *Psittacula incerta*, *Finsch, Die Papageien* iii. p. 612.—The MALAYAN PARROT.

Head and nape violet blue, duller on the sides of the head and on the cheeks ; back and scapulars blackish, or dusky black ; rump and upper tail coverts violet blue ; middle tail feathers green, the rest yellow ; lesser wing coverts with a crimson patch, median and greater series, also the tertiaries, green, edged with yellow ; primary coverts blue ; quills brown on their inner webs, green at tip and on the outer webs ; plumage of the under surface yellowish, blue on the abdomen ; the thighs and under tail coverts green, mottled with blue, and the under wing coverts and axillaries crimson. The female differs much from the male. The top of the head is greenish, tinged with brown, and the feathers are fringed with rufous ; the lores and sides of the head are yellowish, the feathers dark shafted ; back and scapulars green, edged paler ; rump blue, fringed with green ; upper tail coverts and lower plumage green. (*Oates*.) Bill with the upper mandible orange vermilion ; lower one dull reddish brown ; legs and feet dirty green ; eyelids and cere dusky green ; irides creamy white. (*Davison*.)

*Length*.—7·3 to 7·5 inches ; tail 2 ; wing 4·8 ; tarsus 0·5 ; bill from gape 0·75.

*Hab*.—Tenasserim in British Burmah from the south up to Tavoy and Nwalabo mountain, where Mr. Davison found it abundant. Extends to Cochin-China and down the Malay Peninsula to Singapore. It is also found in Sumatra and Borneo. *Oates*, quoting Mr. Davison, says it is a migratory species, and that it arrives in the Tenasserim division about the beginning of April. He however questions the statement. It is said to go about in small flocks.

### Sub-Family.—LORIINÆ—LORIES.

Bill small and compressed, slightly curved, margin of upper mandible sometimes sinuated ; lower mandible slender, conic, longer than high.

### Gen. *Loriculus*.—*Blyth*.

Bill small, nearly 0·5 in length, curving from the base ; upper mandible much longer than the lower, sinuated at the margin, moderately hooked and tapering to a fine point ; lower mandible small ; wings nearly as long as the tail ; 1st and 2nd quills longest ; tail short, even, or barely rounded. (*Ferd.*)

**1088. *Loriculus vernalis* (*Sparrm.*), *Ferd.*, *B. Ind.* i. p. 265 ; *Wald.*, *P. Z. S.* 1866, p. 538 ; *Hume*, *Nests and Eggs Ind. B.* p. 119 ; *id.*, *Str. F.* ii. p. 185 ; iii. p. 57 ; *Blyth*, *B. Burm.* p. 58 ; *Armstrong*, *Str. F.* iv. p. 309 ; *Hume and Dav.*, *Str. F.* vi. p. 120 ; *Hume*, *Str. F.* viii. p. 87 ; *Bingham*, *Str. F.* ix. p. 161 ; *Oates*, *Str. F.* x. p. 190. *Psittacus vernalis*, *Sparrm.*, *Mus. Carls.* ii. No. 29. *Corynis vernalis*, *Finsch*, *Die Papageien* ii. p. 72.—THE INDIAN LORIQUEET.**

Whole head shining grass green ; rump and upper tail coverts crimson ; back green, tinged with yellowish ; tail bluish green, tipped yellowish ; scapulars, wing coverts and tertiaries dark green ; quills green, their outer webs

tinged with bluish; on the lower surface the throat has a patch of verdigris blue; the lower plumage is green, with a yellowish tinge on the breast, and the under side of the wing is blue; the under wing coverts shining green. The *female* has not the blue throat patch. Bill coral red, yellowish at tip; cere red; irides pale yellowish; legs pale orange.

*Length*.—5·5 inches; tail 1·9; wing 3·5; tarsus 0·4; bill from gape 0·45.

*Hab.*—The sub-Himalayan region, Assam, Sylhet, Sikkim, Eastern Bengal, Bhootan and the Andamans, British Burmah, the Deccan, Palani hills, Khandalla ghauts, the jungles of Malabar, Travancore, and the Southern Mahratta Country. Over all these places it is found in small flocks. It is said by Jerdon to be fond of drinking the toddy of the cocoanut palm, and to be sometimes caught stupefied from the effects. They are much prized as cage birds, and are sold as Love birds. The birds breed wherever they are found, laying 3—5 eggs in holes and hollows of trees. Eggs dirty white, and entirely glossless. Size 0·7 to 0·75 in length and 0·58 to 0·6 in breadth.

#### Sub-Family.—PALÆORNINÆ.—*Vigors*.

Bill moderate, upper mandible hooked, the tip overhanging the under mandible: tail long, the feathers narrow and pointed.

#### Gen. *Palæornis*.—*Vigors*.

Bill large, under mandible small; cere narrow; 2nd quill of wing longest; two middle feathers of tail very long and slender; culmen rounded, toothed.

**1089. *Palæornis fasciatus*** (*P. L. S. Müller*), *Hume, Nests and Eggs Ind. B.* p. 118; *id.*, *Str. F.* ii. p. 20; iii. p. 56; vii. p. 163; viii. p. 86; *Scully, Str. F.* viii. p. 245; *Bingham, Str. F.* ix. p. 160; *Oates, Str. F.* x. p. 190; *id.*, *B. Br. Burm.* ii. p. 143. *Psittacus fasciatus*, *P. L. S. Müller, Natursyst. Suppl.* p. 74. *Psittacus vibrissa*, *Bodd., Tabl. Pl. Enl.* p. 30. *Palæornis melanorhynchus*, *Wagler, Mon. Psitt.* p. 511; *Finsch, Die Papageien* i. p. 70; *Wald, Ibis*, 1873, p. 297; 1874, p. 290; *Blyth, B. Burm.* p. 57; *Armstrong, Str. F.* iv. p. 308; *Hume, Str. F.* v. p. 21; *Wardlaw-Ramsay, Ibis*, 1877, p. 453; *Hume and Davison*, vi. p. 120. *Palæornis javanicus* (*Osbeck*), *apud Jerd., B. Ind.* p. 262. *Palæornis Lathamii*, *Finsch, Die Papageien* ii. p. 66.—The RED-BREASTED PAROQUET.

*Adult Male*.—A narrow black frontal band at the base of the upper mandible extending to the eyes; above this the forehead, crown, nape, cheeks, and ear coverts black; a broad black band on each side of the chin and upper throat, extending behind to the ear coverts; an emerald green collar on the hind neck; plumage of the upper surface of the body dark green; the centre tail feathers blue, tipped yellowish and edged with greenish at the base; other tail feathers bluish on the outer webs and green on the inner ones; lesser wing coverts green; a conspicuous patch of bright yellow on the wing; quills brown, exteriorly margined with green; under wing coverts green; plumage of

the lower surface of the body vinaceous red tinged with peach bloom ; from the lower throat to upper abdomen next the black collar, lower abdomen, vent and under tail coverts blue green. Upper mandible of bill coral red, yellowish at tip ; lower mandible dusky black ; irides pale yellow ; legs dusky greenish yellow. In the female the upper mandible is black and the lower orange brown.

*Length*.—16 to 17·5 inches ; tail 9 to 10 ; wing 6·4 ; tarsus 0·5 ; bill from gape 1.

*Hab*.—The sub-Himalayan region as far as Kumaon, extending into Assam, Sylhet, Arracan, the whole of British Burmah nearly, and southward to the Malay Peninsula and Java. It has been procured in some parts of Lower Bengal as Goruckpore and Rungpore. It affects well-wooded districts, and is usually found in small flocks, till the rice is nearly ready for cutting, when they descend to the fields in large numbers and cut the ears of corn. They breed on the tops of lofty trees, in holes and crevices, during March and April. The eggs are dull glossless white in colour, as are those of all the species. The young are taken before they are able to fly and sold in the markets ; they are much prized by the natives as being good talkers, and easily taught to repeat long sentences, and incantations. *P. caniceps*, *P. nicobaricus*, and *P. Tytleri* are found in the Nicobars and Andaman ; *P. Calthropæ* in Ceylon and *P. erythrogenys* in the Andamans and Nicobars.

**1090. *Palæornis columboides*, Vigors, P. Z. S. 1830 ; Lear, Mon. Psitt. pl. 31 ; Ferd., Ill. Ind. Orn. pl. 18 ; id., B. Ind. i. p. 261, No. 151 ; Hume, Str. F. ii. p. 21.**—THE BLUE-WINGED PAROQUET.

Head, back of neck and interscapulars pale dove grey ; forehead, lores, and below the eye verdigris green ; a black collar edged with verdigris green continued round and meeting at the chin ; lower back, rump and upper tail coverts blue green ; wing coverts and scapulars the same, but the feathers edged paler ; primary coverts and quills dark blue externally and dusky on the inner webs ; centre feathers of the tail blue, tipped with yellowish white ; the next pair blue on the outer web, greenish near the base and tipped with yellow ; rest green externally and yellow internally ; lower tail feathers yellow ; neck in front and breast pale dove grey ; rest of the under surface pale verdigris green. The female either wants the collar or has only some slight indication of it. In the male it is the same before the adolescent or adult stage is reached. Bill cherry red above, dusky beneath ; legs greenish plumbeous.

*Length*.—14·5 to 15 inches ; tail 8·75 ; wing 6 ; bill at gape 0·75 ; height nearly 0·9.

*Hab*.—Southern India, in the jungles of the Malabar Coast from Travancore up to N. L. 17° or so from the level of the sea to 5000 feet and upwards on the slopes of the Neilgherries.

**1091. *Palæornis indo-burmannicus*, Hume, Str. F. vii. p. 458 ; viii. p. 86 ; Bingham, Str. F. ix. p. 159 ; Oates, Str. F. x. p. 189 ;**

*id.*, *B. Br. Burm.* ii. p. 139. *Palæornis Alexandri* (Linn.), *Ferd.*, *B. Ind.* i. p. 257, No. 147; *Blyth and Wald.*, *B. Burm.* p. 54. *Palæornis eupatrius*, (Linn.), *Finsch, Die Papageien* ii. p. 11. (part). *Palæornis magnirostris* (Ball), *Hume, Str. F.* iii. p. 55; *Armstrong, Str. F.* iv. p. 307; *Oates, Str. F.* v. p. 143; *Wardlaw-Ramsay, Ibis*, 1877, p. 453; *Hume and Dav.*, *Str. F.* vi. p. 117. *Palæornis sivalensis* (Hutton), *Hume, Nests and Eggs Ind. B.* p. 145.—THE LARGE BURMESE PAROQUET.

General colour green, duller and tinged with yellow beneath, and most brilliant on the forehead, crown, lores, feathers round the eyes, back and wings; sides of head green, tinged with yellow; chin and throat with some small black feathers, the base of the latter yellowish; a black stripe from the base of the throat produced upwards on each side of the neck; round the neck a peach-rose coloured collar; primaries and secondaries green, the inner edges of the inner webs brown; wing coverts green; median wing coverts forming a conspicuous red wing spot; middle tail feathers yellowish at tip, blue-green subterminally for two-thirds and greenish at the base; other tail feathers green externally and yellowish on their inner webs. The *female* has not the rose collar, and the stripe on each side of the neck is wanting; the red wing spot is much smaller. Irides and cere yellow; bill yellow at tip, the remainder red; legs orange yellow.

*Length.*—22 to 24 inches; tail 12—13; wings 8 to 8.4; tarsus 0.7; bill from gape 1.2.

*Hab.*—Lower Himalayas to Sikkim, the forests of Malabar, Central and South India, Northern Circars, Carnatic, Deccan, Punjab, British Burmah, and Cochin-China. Breeds during January and February in holes of trees which the birds excavate for themselves, and lay 3—4 white eggs, long ovals, pointed towards one end, and from 1.5 to 1.52 × 0.95 inch in size. Generally found in small colonies.

**1092. *Palæornis schisticeps***, *Hodgs., As. Res.* xix. p. 178; *Ferd.*, *B. Ind.* i. p. 261, No. 150; *Str. F.* ii. p. 17. *Palæornis Finschi*, *Hume, Str. F.* ii. p. 509; *Wald in Blyth's B. Burm.* p. 55; *Hume and Dav.*, *Str. F.* vii. p. 119; *Hume, Str. F.* viii. p. 86, *Bingham, Str. F.* ix. p. 160; *Oates, Str. F.* x. p. 189; *id.*, *B. Br. Burm.* ii. p. 142.—THE SLATY-HEADED PAROQUET.

General colour green, rather yellowish beneath; head slaty blue; chin black also, a narrow black band bordering the slaty blue, produced as a demi-collar up the sides of the neck; median wing coverts with a red patch forming a conspicuous wing spot; primaries and secondaries dark green externally and narrowly edged with yellowish; their inner webs brown; tertiaries green, under wing coverts tinged with blue; rump and upper tail coverts also tinged with bluish; central tail feathers slaty blue at base, terminal half pale lilac, tipped with yellowish; other tail feathers light green externally and yellow on the inner

web. Bill with the upper mandible vermilion, tipped yellowish; lower mandible pale yellow; irides straw yellow; legs dirty green.

*Length*.—16 to 18 inches; tail 9 to 12; wing 6 to 6·5; tarsus 0·6; bill from gape 0·8; height nearly the same.

*Hab.*—The lower ranges of the Himalayas as far as Darjeeling, Assam, Sylhet and Arracan. Occurs also in abundance throughout British Burmah. Breeds throughout the Himalayas south of the first snowy range at heights of from 4000 to 7000 feet. The majority, according to Hume, lays during the latter half of March and April. They nest in holes of trees excavated by themselves, making the egg chamber deep and large. Eggs generally 4—5 in number, pure white and glossless, often much soiled. In length they vary from 1·08 to 1·17 inch, and in breadth from 0·89 to 0·94 inch. *Palæornis erythro-genys* is found on the Andaman and Nicobar Islands.

**1093. *Palæornis torquatus* (Bodd.), *Ferd.*, *B. Ind.* i. p. 257, No. 148; *Finsch*, *Die Papageien* ii. p. 17; *Hume*, *Nests and Eggs* p. 116; *id.*, *Str. F.* ii. p. 13; *Wald.*, *Ibis*, 1874, p. 282; *Blyth*, *B. Burm.* p. 55; *Hume*, *Str. F.* iii. p. 56; *Wardlaw-Ramsay*, *Ibis*, 1877, p. 453; *Oates*, *Str. F.* v. p. 144; *Legge*, *B. Ceylon* p. 171; *Hume and Dav.*, *Str. F.* vi. p. 118; *Hume*, *Str. F.* viii. p. 86; *Scully*, *Str. F.* viii. p. 240; *Oates*, *Str. F.* x. p. 189; *id.*, *B. Br. Burm.* ii. p. 141; *Murray*, *Vert. Zool. Sind*, p. 112. *Psittacus torquatus*, *Bodd.*, *Tabl. Enl.* pl. p. 32.—The ROSE-RINGED PAROQUET.**

*Adult Male*.—Head and face emerald green; a dark line from the nostrils to the front of the eye, indistinct round the base of the narrow cere; hind neck and nape glaucous or light ashy, succeeded on the sides of the neck by a black demicollar meeting under the chin and followed by another of a peach-rose colour; back, scapulars, and tertiaries dull green; upper tail coverts emerald green; entire under surface pale green, yellowish towards the vent; primaries, their coverts, and secondaries, dark green, their inner webs and under surface dusky; tail feathers dark green, their inner webs and under surface yellowish; the two centre feathers dark green at their base, bluish for the remaining two-thirds, and tipped yellowish; all black shafted; under wing coverts greenish-yellow. The female is entirely green, and wants the rose collar. Bill coral red; irides pale yellow; feet cinereous.

*Length*.—15·5 to 16·5 inches; wing 6·5 to 7; tail 9·5; bill at gape 1.

*Hab.*—Throughout India, part of Burmah, Ceylon, Punjab and Sind; extends to the lower Himalayas, Upper Pegu, and Nepaul. Occurs abundantly in the Concan and Deccan, Kutch, Kattiawar, Jodhpore, and N. Guzerat. Breeds throughout India in colonies. Eggs, pure white, 4 in number.

**1094. *Palæornis cyanocephalus* (Linn.), *Finsch*, *Die Papageien* ii. p. 40 (part); *Wald.*, *Ibis*, 1874, p. 284; *Blyth and Wald.*, *B. Burm.* p. 55; *Hume and Dav.*, *Str. F.* vi. p. 118; *Hume*, *Str. F.* viii. p. 86; *Bingham*,**

*Str. F.* ix. p. 161. *Psittacus cyanocephalus*, *Linn., Syst. Nat.* i. p. 14. *Psittacus rosa*, *Bodd., Tabl. Pl. Col.* p. 53. *Psittacus bengalensis*, *Gmel., Syst. Nat.* i. p. 325. *Palæornis rosa*, *Jerd., B. Ind.* i. p. 259 (part): *Palæornis bengalensis*, *Hume, Str. F.* ii. p. 16; iii. p. 56; *Oates, Str. F.* vii. p. 46; *id., B. Br. Burm.* ii. p. 145.—THE BURMESE ROSE-HEADED PAROQUET.

Head, including the ear coverts, rosy pink, changing to bluish on the crown and nape; a black stripe from each side of the lower mandible, covering the throat and continued as a collar round the neck; upper back, scapulars and wings green; lower plumage tinged with yellow; a patch of deep maroon on the median wing coverts; primaries and secondaries dusky on their inner webs and the outer web of the first primary; rest of the quills green on their outer webs; *under wing coverts bright green*. Central tail feathers blue, *tipped with yellow, others green on the outer webs*, yellowish on the inner, and all tipped with bright yellow. The female has the head plum-blue, the black on the throat and collar are absent, and the wing spot is less conspicuous. Upper mandible orange yellow; lower black; irides yellow; legs grey.

*Length*—13·5 inches; tail 8; wing 5·5; tarsus 0·5; bill from gape 0·65.

*Hab.*—British Burmah, ranging through the Indo-Burmese countries into India, where it occurs in Bengal and along the lower ranges of the Himalayas as far as Nepal. Breeds in February and March. Eggs, pure white, four in number.

**1095. *Palæornis rosa*** (*Bodd.*), *Jerd., B. Ind.* i. p. 259, No. 149. *Palæornis purpureus*, *P. L. S. Mull., Hume, Str. F.* ii. p. 11; *id., Nests and Eggs Ind. B.* p. 116. *Psittacus rosa*, *Bodd., pl. Enl.* 192 et 888.—THE WESTERN ROSE-HEADED PAROQUET.

Very similar to *P. cyanocephalus*, except that the rump and lower back are bluish; also the under wing coverts and the outer webs of the next pair of feathers to the central pair; the outer webs of the first and second primaries are narrowly edged with pale yellow and the tips of the central tail feathers are white and not yellow; the crown and nape too are more lilac than bluish, and the under surface of the body a pale yellowish green.

*Length*.—14 to 15 inches; tail 8·5; wing 5·25.

*Hab.*—Throughout India, extending into the Himalayas and Assam, also Ceylon. On the Malabar Coast it is extremely common; also on the Eastern Ghauts, the Carnatic, Northern Circars, Central India, Midnapoor, and Lower Bengal. Breeds, according to Hume, throughout the plains of Continental India, high up on Mount Aboo, also throughout the salt range and the lower ranges of the Himalayas, up to heights of from 4,000 to 5,000 feet, from Murree to the Ganges. They commonly lay in April, excavate holes for themselves, and lay from 4 to 6, pure white, but rather soiled, glossless eggs, varying in length from 0·9 to 1·05 inches, and in breadth from 0·75 to 0·86 inch.

**SUB-ORDER—COCCYGES ANISODACTYLÆ.****Family, UPUPIDÆ, Bp.—HOOPERS.**

Bill long, sides compressed to tip ; nostrils small and at base ; wings long and rounded ; tail long ; outer toe united to middle ; hind toe long.

**Sub-Family.—UPUPINÆ.—Bp.**

Bill with prominent keel, tip sharp ; claws long, curved, sharp and strong.

**Gen. Upupa.—Linn.**

Bill slender and curved throughout ; nostrils covered with membranous scale ; tarsi broadly scaled ; head crested.

**1096. Upupa epops**, Linn., *P. E.* 52 ; *Lev. Prom.* t. 22 ; *Naum. vogt.* t. 142 ; *Gould, B. Eur.* pl. 238 ; *Jerd., B. Ind.* i. p. 390, No. 254 ; *Str. F.* i. 174 ; iii. 99 ; *Murray, Hdbk., Zool., &c., Sind.* p. 133.—The HOOPOE.

Feathers of the crest reddish buff, each feather tipped with black, some of the median ones with a narrow whitish band below the black tip ; hind neck, sides of neck, throat and breast pale rufous fawn ; chin whitish ; upper back dark ashy brown ; lower back and scapulars barred buffy and dark brown ; wing coverts black with two white bands ; under wing coverts buffy white ; primaries, secondaries and tertiaries dark brown ; the 1st primary with a white spot on the inner web, and the others barred on both webs ; secondaries and tertiaries with 3—4 white bands ; lower abdomen buffy, with a few dark streaks ; under tail coverts white ; upper tail coverts white, terminated with black ; tail black, with a white band about the middle. Bill black, reddish at the base ; irides red brown ; legs brownish black.

*Length.*—12 to 12·5 inches ; wing 5·5 ; tail 4 ; bill at front 1·75 or a little more.

*Hab.*—Europe, India, Assam, Himalayas, Cashmere, Palestine, Persia, Beloochistan, Afghanistan, Eastern Turkistan, Sind, Punjab, N.-W. Provinces, Bengal, Southern, Northern, Central, Eastern and Western India generally. Breeds in the Punjab and N.-W. Provinces.

**1097. Upupa longirostris**, *Jerd., B. Ind.* i. p. 393 ; *Blyth, B. Burm.* p. 69 ; *Hume, Str. F.* iii. p. 89 ; *Armstrong, Str. F.* iv. p. 315 ; *Inglis, Str. F.* v. p. 29 ; *Oates, Str. F.* v. 149 ; *Hume and Dav., Str. F.* vi. p. 202 ; *Oates, Str. F.* vii. p. 41 ; *Hume, Str.* viii. p. 90 ; *Oates, Str. F.* x. p. 199 ; *id., B. Br. Burm.* ii. p. 62. *Upupa Ceylonensis* (*Reich.*), *apud. Dav. et. Oust. Ois Chine* p. 79. *Upupa indica* (*Bonap.*) *apud. Anderson, Yunnan Exped.*, p. 578.—The BURMESE HOOPOE.

Whole head and neck cinnamon-rufous, the feathers of the crest broadly tipped with black ; lesser wing coverts cinnamon-rufous, the median series



black, tipped with white, and the greater series black, barred across with white; primaries black, with a bar of white near the tip, the first with or without a white spot on the inner web; primary coverts black; tertiaries brown, tinged and edged with rufous; back dull vinous; scapulars barred with black and rufous; rump the same, followed by a transverse white band; upper tail coverts black; tail black, with a white bar across the feathers; chin, throat, breast and upper abdomen rufous-fawn; lower abdomen whitish, streaked with brown; vent and under tail coverts white, in some a few feathers are tipped with black. Bill dark brown; irides red brown; legs plumbeous.

*Length*.—12 inches; tail 4·4; wing 3·6; tarsus 0·85; bill from gape 2·6. In females the bill is smaller, about 2·3.

*Hab*.—British Burmah and the hill tracts of Eastern Bengal; also China, Siam, Cochin-China and the Malay Peninsula. Found in all the more dry parts of the country, where it lives chiefly upon ants. Breeds in March and April in holes of trees. Eggs, 3—6, pale blue in colour, varying in length from 1·06 to 1·2 inch, and in breadth from 0·63 to 0·75.

**1098. *Upupa Ceylonensis*** (*Reich.*), *Jerd.*, *Suppl.* vol. ii.; *Hume*, *Str. F.* iii. p. 90; vii. p. 517. *Upupa nigripennis* (*Gould*), *Jerd.*, *B. Ind.* ii. p. 392, No. 255; *Hume*, *Nests and Eggs Ind. B.* p. 163.—The INDIAN HOOPOE.

Similar to the last, but smaller.

*Length*.—10·5 against 12 inches; tail 4; wing 3 to 3·5; bill from gape 2·2. No white on crest, nor are there any white spots on the first primary.

*Hab*.—Southern India and Ceylon, also a part of Central India, the Punjab, and N.-W. Provinces. Breeds from February to May. Nidification same as last; eggs rather smaller.

According to Jerdon it frequents groves of trees, thin forest jungle, gardens, and the neighbourhood of villages and old deserted buildings. Like the other species of the genus, it feeds on the ground on insects, grubs, and larvæ. It usually has its crest depressed when feeding, and on the slightest disturbance, erects it. It has an undulatory but vigorous flight.

### Family MEROPIDÆ—BEE-EATERS.

Bill long; both mandibles curved and sharp; nostrils partly hidden by short bristles; wings long and pointed; tail long and broad; central feathers generally elongated; tarsi short; toes long, two exterior united to middle; hind toe with a pad beneath.

#### Gen. *Merops*.—*Linn.*

Second quill longest; tail with two middle feathers elongated; tarsi scaled; outer toe longer than inner; wings reaching to two-thirds the length of tail.

**1099. *Merops viridis*, Linn., *Syst. Nat.* 1. p. 182; *Jerd.*, *B. Ind.* 1. p. 205; *Hume, Nests and Eggs Ind. B.* p. 99; *id.*, *Str. F.* 1. p. 167; iii. p. 49; *Blyth, B. Burm.* p. 73; *Armstrong, Str. F.* iv. p. 304; *Hume and Dav.*, *Str. F.* vi. p. 67; *Anders., Yunnan Exped.* p. 582; *Legge, B. Ceylon* p. 309; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* ix. p. 152; *Murray, Vert. Zool., Sind.*, p. 107. *Merops ferrugiceps*, *Hodgs. in Gray's Zool. Misc.* p. 82.—THE COMMON INDIAN GREEN BEE-EATER.**

Above bright grass green; below bright green, mixed with verdigris; lower abdomen and under tail coverts slightly paler and with a bluish tinge; head, nape, and hind neck burnished with golden; forehead and fore crown deep rufous, wanting in many specimens from Northern India, as Sind; eye streak from base of bill through the eye to ear coverts, and a collar on top of the breast, black; quills reddish, tipped dusky; tail very dull green, the edges of their inner webs dusky; elongated portion of the two central feathers dark brown. Bill black; irides blood red.

*Length.*—9·75 inches to tip of central tail feathers; wing 3·5 to 3·75; bill at front 1·1.

*Hab.*—The whole of India, extending to Ceylon and Indo-China. Occurs also at Quetta in Beloochistan, Persia and Egypt; also in Southern India (Travancore), Nepaul and Cashmere. Abundant nearly throughout British Burmah. Breeds almost all over India and Burmah, laying from 3 to 5 eggs, during March and April, often also in May, in sandy banks. The eggs are little polished alabaster-like balls, nearly spherical in shape, milky white in hue, and brilliantly glossy. They vary in length from 0·68 to 0·82 inch and in breadth from 0·64 to 0·73 inch.

**1100. *Merops philipinus*, Linn., *Syst. Nat. Ed.* 13. 1. p. 183; *Hume, Nests and Eggs Ind. B.* p. 101; *Salvad., Ucc. Born.* p. 89; *Blyth, B. Burm.* p. 72; *Oates, Str. F.* v. p. 143; *Dav. et Oust. Ois. Chine* p. 72; *Legge, B. Ceylon*, p. 306; *Hume and Dav.*, *Str. F.* vi. p. 67; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* ix. p. 152; *Oates, B. Br. Burm.* ii. p. 66; *Murray, Vert. Zool. Sind.* p. 108. *Merops Phillipensis* (*Linn.*), *Jerd.*, *B. Ind.* i. p. 207, No. 118; *Anders., Yunnan Exped.* p. 581.—THE BLUE-TAILED BEE-EATER.**

Forehead, crown, nape, and back dull green, tinged with coppery; rump and upper tail coverts bright blue; central tail feathers blue, the projecting elongation black; other tail feathers blue; their inner webs dusky; tertiaries bluish green; primaries and secondaries green externally, and rufescent on their inner webs, all tipped with black; wing coverts green; lores, ear coverts and a line through the eye black; a narrow blue line above this and a pale bluish white one below; chin yellow; throat chestnut; under surface of the body green, with a rufescent tinge; under tail coverts pale blue; under wing coverts bright buff. Bill black; irides bright red; legs plumbeous.

*Length*.—12 to 12·5 inches; tail 5·5 to 5·7; wing 5·3 to 5·5; tarsus 0·5; bill from gape 2. The female is very slightly smaller.

*Hab.*—The whole peninsula of India and Ceylon, also the Andaman Islands, and the whole of British Burmah, being especially abundant in Arrakan and Pegu; somewhat rare in Tenasserim, where, according to Oates, it is partially migratory and is found also in China, Cochinchina, Siam, the Malay Peninsula, Samatra, Java, Borneo, Celebes, and Philippine Islands. Wherever this Bee-Eater is found it occurs in large flocks, and like *viridis* are very partial to resting on telegraph wires. They are especially numerous about the banks of large streams and rivers. They nest in the banks of rivers, making like *viridis* a long tunnel 3 to 5 feet deep, with a chamber at the end. Eggs slightly larger than those of *viridis*, 4 to 5 in number, and of the same colour and gloss.

**1101. *Merops Leschenaulti*.** Vieill., *Nouv. Dict. d'Hist. Nat.* xiv. p. 17; *Hume and Dav., Str. F.* vi. p. 68. *Merops quinticolor* (V.), *Jerd., B. Ind.* i. p. 208, No. 119. *Merops Daudini* (Cuv.), *Swinhoe, P. Z. S.* 1871, p. 348. *Merops Swinhoei*, *Hume, Nests and Eggs Ind. B.* p. 102; *id., Str. F.* ii. p. 163; iii. p. 50; *Armstrong, Str. F.* iv. p. 305; *Legge, Birds of Ceylon*, p. 312; *Hume, Str. F.* vii. p. 455; viii. p. 85; *Parker, Str. F.* ix. p. 478. *Merops erythrocephalus* (Gm.), *Blyth and Wald., B. Burm.* p. 274.—THE CHESTNUT-HEADED BEE-EATER.

Top of the head, ear coverts, nape and upper back, rich chestnut; lores black, extending as a band under the eye and ear coverts; lower back, wing coverts, and tertiaries green, the latter tinged with bluish; rump and upper tail coverts pale azure or shining blue; quills green, rufous on the inner webs, and all tipped with dusky black; tail even or slightly emarginate, the centre feathers not elongated, bluish on the outer and green on the inner webs; rest green, margined with brown on the inner webs and all tipped with dusky; sides of the face, chin and throat yellow, followed by a collar of chestnut, edged with black, which extends up the sides of the neck; breast bright green; rest of lower plumage green, tinged with blue, which is most conspicuous on the vent and inner tail coverts. Bill black; irides crimson; legs dusky black.

*Length*.—8·5 inches; tail 3·3 to 3·5; wing 4·2; tarsus 0·4; bill from gape 1·7.

*Hab.*—Malabar forests; Neilgherries up to 5,500 feet elevation; Mysore, Wynaad, Southern India generally, to Ceylon. It is said to be found sparingly distributed throughout the whole province of Burmah, also in Siam, Cochinchina and China. Occurs in forests and well-wooded parts of the country in small flocks. Breeds during March and April on the slopes of the Neilgherries. They bore holes in the sandy parts of the banks to a depth of from 3 to 6 feet, at the bottom of which is a circular chamber about 6 inches in diameter, where

without any nest or lining, they lay from 4 to 6 eggs, pure and glossy white, almost spherical, varying in length from 0·82 to 0·92 inch, and in breadth from 0·72 to 0·81 inch.

**1102. *Merops persicus*, Pall.,** *Reis. App.* p. 708; *Zoogr. Ros. As. i.* p. 440; *De F. Viag. in Pers.* p. 346. *M. Ægyptius*, *Forskahl, Desc. de l'Egypt*, p. 1; *Ferd., B. Ind.* p. 210; *Murray, Vert. Zool. Sind.* p. 108.—**THE PERSIAN BEE-EATER.**

Distinguished from *M. viridis* and *M. phillipinus* by a narrow yellowish white line on the forehead, edged by another pale blue one, which continues over the eye as a supercilium; a white line edged with blue from the gape running below the streak through the eye; chin yellow; throat deep chestnut.

*Length.*—12 inches; wing 6; tail 3·25.

*Hab.*—Throughout Asia Minor, Beloochistan, Persia, Arabia, Egypt, Africa, East and South Europe, and India. In Sind and the Punjab, common.

**1103. *Merops apiaster*, Linn.,** *P. E.* 938; *Naum. vogt. t.* 143; *Lev. Guep. t. l.* 2; *Ferd., B. Ind.* p. 210, No. 121; *Hume, Str. F.* vol. vii. p. 453; *Blanford, Eastern Persia*, ii. p. 122; *Murray, Hdbk., Zool., &c., Sind.* p. 127; *id., Vert. Zool. Sind.* p. 109.—**THE EUROPEAN BEE-EATER.**

Top of head rich chestnut brown, also the neck, upper back, wing coverts and secondaries; forehead dull white, passing into pale verdigris green; chin and throat bright yellow; a bluish black streak from the base of the bill through the eye descending to a narrow black ring, which encircles the neck. Primaries narrow and pointed, dusky on the inner webs, fine greenish blue on the outer, the tips and shafts black; secondaries also tipped black; tertiaries blue green; larger and lesser under wing coverts fawn colour; lower back yellow, tinged with chestnut and green; tail greenish blue or dull green, the two middle feathers darker, tipped blackish, and elongated beyond the rest; upper tail coverts bluish green, with a yellowish tinge; breast and lower parts greenish blue; under tail coverts pale blue. Bill black, long and curved, and with a strong blunt ridge; legs reddish brown; claws reddish black. The plumage of the female is less bright; the central tail feathers shorter than in the male.

*Length.*—10 to 11 inches; wing 5·75; tail 3·75.

*Hab.*—Europe, N. and W. Africa, Palestine, Arabia, Egypt, Cashmere, Persia, Beloochistan, Afghanistan, and Asia Minor. In India it occurs as a bird of passage in the Punjab, N.-W. Provinces, Sind, Kutch, Kattiawar, Rajputana, and the Deccan. Colonel St. John (*Zoology of Eastern Persia*) remarks, that it is common throughout the summer in Persia at 2,500 to 6,000 feet elevation, breeding in company with sparrows, pigeons and rollers.

Gen. **Nyctiornis**.—*Swainson*.

Bill moderately long, curved, compressed; culmen flattened at base, grooved on the sides; nostrils hidden; wings moderate, 4th quill longest; plumage lax and dense; breast with elongated plumes.

**1104. *Nyctiornis Athertoni*** (*Jard. and Selb.*), *Jerd. B. Ind.* i. p. 211, No. 122; *Hume, Nests and Eggs* p. 103; *Blyth, B. Burm.* p. 73; *Hume and Dav., Str. F.* vi. p. 68; *Anders., Yunnan Exped.* p. 583; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* ix. p. 472; *Oates, B. Br. Burm.* ii. p. 63. *Merops Athertoni*, *Jard. and Selby, Ill. Orn.* ii. pl. 58.—The BLUE-NECKED BEE-EATER.

Whole upper surface of the head and body, including the wings and tail, and the sides of the head and neck, deep green; frontal feathers tipped with bluish; gular hackles rich ultramarine blue, the feathers lengthened and drooping; breast, abdomen, and sides of the body buff, streaked with greenish; wing and upper tail coverts plain buff; under wing coverts buff; inner webs of quills brownish. Bill horny, light at the base below; irides yellow; legs and feet dusky, tinged with greenish.

*Length*.—14 inches; tail 6·2, 3·2 beyond the length of wing; wing 5·8; tarsus 0·7; bill from gape 2·3.

*Hab.*—The Indo-Burmese countries into India, where it is found in the large and lofty forests of Malabar, the Neilgherries, Wynaad, the Carnatic, Mysore, and along the Himalayas from Dehra Doon to Assam, Arrakan and Tenasserim. It is also found in Darjeeling. Breeds in April and May, in the sub-Himalayan forest of the Kumaon terai; also in Tenasserim, where Captain Bingham found the eggs. It is generally solitary in its habits, and not unlike other Bee-Eaters, perches high on trees in commanding positions, whence it sallies forth after flying insects, which it seizes on the wing.

**1105. *Nyctiornis amicta*** (*Tem.*), *Salvad., Ucc. Born.* p. 91; *Blyth and Wald., B. Burm.* p. 73; *Hume and Davison, Str. F.* vi. p. 69; *Hume, Str. F.* viii. p. 85; *Bingham, Str. F.* ix. p. 153; *Kelham, Ibis*, 1881, p. 378. *Merops amictus*, *Tem., Pl. Col.* 310. *Nyctiornis malaccensis*, *Cab. et Hein., Mus. Hein.* ii. p. 133.—The RED-BEARDED BEE-EATER.

Feathers covering the nostrils greenish blue; forehead, lores and crown of head as far as a line drawn behind the eyes bright lilac-rose; angle of chin bluish; whole upper surface of the body, including the wings and tail, dark green; inner webs of quills brownish, their bases edged with buffish; under side of tail bright buffish yellow, tipped with black; cheeks, throat, and a band extending to the breast crimson, the feathers of the latter dark centred; abdomen and rest of under surface of body pale green; under wing coverts buff. In the *female* the forehead, lores and throat are crimson; eyelids green. Bill black; irides bright yellow; legs and feet pale green.

*Length*.—13 inches ; tail 5·3 ; wing 5·4 ; tarsus 0·6 ; bill from gape 2·5.

*Hab*.—Tenasserim to Moulmein, and through the Malay Peninsula to Sumatra and Borneo.

**Family, CORACIADÆ,—ROLLERS.**

Bill long and broad at the base, tip hooked ; nostrils at the base oblique, linear, apert ; gape with strong rictal bristles ; wings and tail moderately long ; 2nd quill longest ; tarsi short.

**Gen. Coracias.—Lin.**

Characters same as those of the Family.



**1106. Coracias garrula (Lin.),** *P. E.* 486 ; *Naum. vogl.* t. 60 ; *Gould, B. Eur.* pl. 60 ; *Yerd., B. Ind.* p. 218, No. 125 ; *Str. F.* vol. i. 168 ; iv. 133 ; v. 502 ; *Murray, Hdbk., Zool., &c., Sind,* p. 128 ; *id., Vert. Zool. Sind.* p. 109.—THE EUROPEAN ROLLER.

Forehead whitish ; head, neck and nape pale iridescent bluish green ; chin greyish white ; throat bright bluish green with pale blue shaft-streaks ; breast, abdomen, vent and lower tail coverts pale bluish green ; upper back, scapulars and tertiaries chestnut bay ; shoulders and lesser coverts violet blue, as also are the lower back and rump ; upper tail coverts light blue ; primaries bluish black, the outer web of the first two tinged with green, the next four light blue at the base on their outer webs ; secondaries bluish black, the basal half of the feathers light blue ; greater coverts pale blue ; tail, with the two

centre feathers, deep greyish green or ashy blue, the others dark greenish blue for two-thirds their length on their outer webs, dusky on their inner webs, and broadly tipped with light blue, the two outermost feathers with a spot of blackish blue at their tips; all the feathers black shafted. Bill yellowish brown, darker at the tip; irides red brown; feet yellow brown.

*Length*.—13 inches; wing 7·75; tail 5; bill at front 1·37.

*Hab*.—Central and South Europe, Madagascar, Egypt, Arabia, Persia, N.-E. Africa, Western and Central Asia. It is said to breed in Persia, Afghanistan, and Turkistan. In Beloochistan, Punjab, N.-W. Provinces and Sind it occurs as a migrant.

**1107. *Coracias indica* (Lin.),** *Edw. B.* pl. 326; *P. E.* 285; *Jerd.*, *B. Ind.* p. 214, No. 123; *Hume, Str. F.* vii. 259; *Murray, Hdbk., Zool., &c., Sind*, p. 128; *id.*, *Vert. Zool. Sind.* p. 109.—THE INDIAN ROLLER.

Forehead rufescent brown; head and nape greenish blue; supercilium light blue; hind neck, scapulars, upper back and tertiaries ashy or earthy brown, tinged on the hind neck with vinous; lower back greenish blue; rump, upper tail coverts, lesser coverts, and shoulders cobalt blue, some of the feathers of the upper tail coverts tipped greenish; winglet and primaries pale blue, the latter with a broad band of violet blue in the middle and tipped dark blue; secondaries violet blue, the margins of their inner webs dusky, and the basal half of their outer ones dark green, shading into light blue on their outer margins; tail with the middle feathers dull green, the rest violet blue with a pale sky blue band; chin light fulvous; throat and breast of a vinous colour, with light fulvous shaft-stripes, passing into isabelline on the upper abdomen, where the fulvous streaks are indistinct; lower abdomen, vent, under tail coverts, and under wing coverts pale blue. Bill dusky brown; legs orange; irides red brown; eyelids yellow.

*Length*.—13·5 inches; wing 7·25; tail 5; bill at front 1·12; tarsus 1.

*Hab*.—The whole of India and Ceylon; the Himalayas, Nepaul, N.-W. Provinces, the Punjab, Sind, S. Persia (Bushire), Beloochistan, Kutch, Kattia-war, Jodhpore, Jeypore, North Guzerat, the Concans and the Deccan.

In Sind it is a resident and breeds in holes of decayed trees, and sometimes in the deep forks of acacia trees, in April and May. Eggs two in number, round, pure white.

**1108. *Coracias affinis*, McClell.,** *P. Z. S.* 1839, p. 164; *Jerd.*, *B. Ind.* i. p. 217; *Blyth, B. Burm.* p. 72; *Hume, Str. F.* iii. p. 50; *Armstrong, Str. F.* iv. p. 305; *Oates, Str. F.* v. p. 143; *Hume and Dav., Str. F.* vi. p. 72; *Oates, Str. F.* vii. p. 40; *Hume, Str. F.* viii. p. 85; *Brooks, Str. F.* viii. p. 467; *Oates, B. Br. Burm.* ii. p. 69.—THE BURMESE ROLLER.

Top of the head and nape green, tinged with blue; hind neck, back, scapulars and tertiaries greenish brown; rump purplish blue; upper tail

coverts bright cærulean blue; central tail feathers green, the others purple on the basal half or two-thirds pale blue terminally; lesser and median wing coverts purple, the greater series purplish brown, edged and tipped with greenish blue; quills purple, the first four primaries with a band of pale blue; near the tip, primary coverts and secondaries pale blue, the blue of the latter under the coverts. Bill brownish black; irides brown; legs yellowish brown.

*Length*.—13 inches; tail 5·2; wing 4·4; tarsus 1·1; bill from gape 1·9.

*Hab*.—British Burmah to Assam and Eastern Bengal. Breeds in March and April. Eggs 4—5, glossy white.

Gen. **Eurystomus**.—*Vieillot*.

Bill shorter and much broader than in *Coracias*; base wide, the tip of culmen curved; nostrils narrow; rictal bristles absent; gape wide; wings long; 2nd quill longest; 1st sub-equal; tarsus short; outer toe slightly syndactyle.

**1109. *Eurystomus orientalis* (Linn.)**, *Ferd.*, *B. Ind.* i. p. 219, No. 126; *Hume, Nests and Eggs Ind. B.* p. 105; *id.*, *Str. F.* ii. p. 164; *Salvad., Ucc. Born.* p. 105; *Blyth, B. Burm.* p. 72; *David et. Oust Ois Chine*, p. 73; *Wardlaw-Ramsay, Ibis*, 1877, p. 457; *Hume and Dav.*, *Str. F.* vi. p. 72; *Legge, B. Ceylon* p. 285; *Hume, Str. F.* viii. p. 85; *Oates, Str. F.* x. p. 186; *id.*, *B. Br. Burm.* ii. p. 70. *Coracias orientalis*, *Linn., Syst. Nat.* i. p. 159.—The BROAD-BILLED ROLLER.

Whole head, including lores, cheeks, ear coverts and nape dark brown, tinged with greenish blue, which is more conspicuous and decided on the scapulars; back, rump, upper tail coverts, tertiaries and wing coverts, also the primaries, secondaries and their coverts black, the first 6-7 with a light blue patch at their bases; tail uniform dark violet; throat and upper breast with broad violet blue shaft stripes; rest of lower plumage dingy greenish blue, brighter on the vent, under tail coverts and under wing coverts. Bill and legs vermillion; eyelids red; irides dark brown; gape yellowish.

*Length*.—12 to 12·5 inches; tail 4·4 to 4·5; wing 7·6 to 8; tarsus 0·7; bill from gape 1·7.

*Hab*.—The base of the Himalayas, Lower Bengal, Assam, the Burmese countries, extending to China, Ceylon, Siam, Cochin-China, and down the Malay Peninsula to Sumatra, Java, and Borneo. According to Oates, it is rare, though locally distributed, over the greater part of Burmah. It has been got in Pegu, in the hills north of that town, also at Tonghoo and at Shway-ghéen. Capt. W. Ramsay got it on the Karin hills, and Mr. Blanford at Bassein, and Davison's experience is that it is confined to the southern portion of Tenasserim. Oates adds that it is almost crepuscular in its habits. It breeds in the Terai during May in holes of the higher branches of lofty trees. Nothing appears to be known of its eggs, but they also are probably white.



**Family.—ALCEDINIDÆ—KINGFISHERS.**

Bill long, straight, thick, quadrangular, and pointed; tongue short, flat and fleshy; nostrils lateral, oblique; tail short; wings moderate and rounded; tarsi short; plumage thick, of singular brilliancy, in which blue, green and orange are the prevailing colours. Habits solitary. Found near rivers, brooks, streams or stagnant waters, from which they capture fish for subsistence. All kingfishers agree in their manners. They generally perch on some tree or other elevated object overhanging water, and there remain motionless for hours watching till some fish comes under their view, when they will dive down perpendicularly and bring up their prey. The scales of the fish are thrown up in small pellets.

**Sub-Family.—ALCEDININÆ.**

Bill long, slender and compressed, acute and grooved near the culmen for the greater part of its length; gonys nearly straight.

**Gen. Alcedo.—Linn.**

Bill long, slender, straight, compressed, the tip acute; culmen sharp and carinated; commissure straight; 2nd and 3rd quills sub-equal, 3rd slightly the longest, 1st very little shorter; lateral toes syndactyle; inner toe short.

**1110. *Alcedo bengalensis*, Gm., Syst. Nat. i. p. 450; *Jerd., B. Ind.* i. 230, No. 134; *Sharpe, Mon. Alced.* p. ii. pl. 2; *Hume, Nests and Eggs Ind. B.* p. 107; *Salvad, Ucc. Born.* p. 92; *Hume, Str. F.* i. pp. 168, 169; iii. p. 52; *Blyth, B. Burm.* p. 71; *Armstrong, Str. F.* iv. p. 307; *Legge, B. Ceylon*, p. 292; *Anders., Yunnan Exped.* p. 580; *Wardlaw-Ramsay, Ibis*, 1877, p. 457; *Hume and Dav., Str. F.* vi. p. 81; *Hume, Str. F.* viii. p. 86; *Bingham, Str. F.* ix. p. 155; *Oates, B. Br. Burm.* ii. p. 72.—The LITTLE INDIAN KINGFISHER.**

Head and hind neck dusky, each feather tipped with pale blue; a band from the nostrils to the ear coverts rufous; a dark patch at the gape on both upper and lower mandibles. Sides of the neck, chin and throat white; a streak of dusky feathers edged with blue from each corner of the lower mandible dividing the white of the chin and throat and sides of the neck; quills dusky on their inner webs; the outer webs dull greenish blue; scapulars dull bluish green; back, rump and upper tail coverts pale blue; tail blue, tinged with greenish; breast and entire under surface orange brown or ferruginous. Bill blackish above, horny brown below; irides dark brown; legs orange red.

*Length.*—6·5 to 7 inches; wing 2·75; tail 1·1; bill at front 1·4.

*Hab.*—Throughout India; also Ceylon and China. Occurs also in Beloochistan and S. Afghanistan, but is rare. In Kutch, Kattiawar, N. Guzerat, Concan and the Deccan, it is the common form where *A. ispida* does not occur. In Sind it appears to be a seasonal visitant.

In Burmah it affects all the low-lying parts near the sea. It extends as far as East Africa; in the north to Siberia and Japan, and ranges thence to China, Siam, Cochinchina, and the Malay Peninsula, and breeds from March to May, making a narrow hole about 2 feet in depth in some bank overlooking the water, generally about five or six feet above water level. Correspondents in the Nilghiris, Deccan, the Dhoon, Darjeeling, Cashmere, Kumaon, Ootacamund, Ahmednuggur, and other places all agree in regard to the lining of the nest, being composed of small filamentous bones, probably undigested food thrown up in the chamber, on which the eggs are laid. The eggs are glossy white, some oval, and others spherical, about  $0.8 \times 0.7$  inch.

**1111. *Alcedo grandis*, Blyth, *J. A. S. B.* xiv. p. 190.** *Alcedo euryzona*, Temm. *apud. Jerd., B. Ind.* i. p. 231, No. 135. *Alcedo nigricans*, *apud. Blyth, J. A. S. B.* xvi. p. 1180. *Alcedo cærulea*, Gmel. *apud. Bonap.* *Alcedo grandis*, Sharpe, *Mon. Alced.* p. 27, pl. 7; Gould, *B. Asia*, pt. xxii. pl. 1.—THE GREAT INDIAN KINGFISHER.

Very like *Alcedo bengalensis*, except that the coloration is much darker; back and rump very bright blue; upper tail coverts deep blue; lores with a black spot, the rufous band faintly developed; ear coverts mixed black and blue; nuchal band narrow and white; plumage beneath dark ferruginous.

*Length*.—8.5 to 9 inches against 6.8; wing 3.8 against 2.75; bill at front 1.9.

*Hab.*—Sikkim, where it is rare.

**1112. *Alcedo ispida*, Lin., *Syst. Nat.* i. p. 207; Bodd., *Tabl. Pl. En.* 77; Naum. *vogt.* t. 144; Gould, *B. Eur.* pt. xviii. ?; Hume, *Str. F.* i. p. 168; Murray, *Hdbk. Zool., &c., Sind*, p. 129.**—THE EUROPEAN KINGFISHER.

A broad bright orange stripe from the bill to the ear-coverts margined on the side of the gape and crossed below the eye by a narrow black streak; sides of neck with a white patch commencing from behind the earcoverts; chin and throat white. Head, nape, neck behind, a broad streak from the base of the lower mandible and lesser wing coverts greenish blue, the feathers edged with bright light blue, and forming narrow bars or spots of that colour; scapulars and exterior webs of the primaries greenish blue, the inner webs of the latter dusky brown; back, rump, and upper tail coverts rich azure blue; tail deep blue; breast and entire under surface of the body bright orange. Upper mandible dusky brown or blackish brown, reddish at base; lower mandible reddish orange; irides hazel.

*Length*.—6.8 to 7.5 inches; expanse 10.5 to 11; wing 2.95 to 3; bill 1.6 to 1.7.

*Hab.*—Europe generally; found also in S. Afghanistan, Beloochistan, Persia, and Sind.

**1113. *Alcedo asiatica*, Swains., *Zool. Ill.* 1st Ser. i. pl. 50; Sharpe, *Mon. Alced.* p. 23, pl. 5; Ball, *Str. F.* i. p. 59; Hume, *Str. F.* ii.**

pp. 174, 494; iv. p. 383; *Blyth and Wald.*, *B. Burm.* p. 71. *Alcedo meningingting*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 172; *Salvad.*, *Ucc. Born.* p. 93; *Oates*, *Str. F.* v. p. 143; *Hume and Dav.*, *Str. F.* vi. p. 83; *Hume*, *Str. F.* viii. p. 86; *Oates*, *Str. F.* x. p. 188. *Alcedo rufigastra*, *Wald.*, *Ann. Nat. Hist. Ser.* 4, xii. p. 487; *id.*, *Ibis*, 1874, p. 136. *Alcedo Beavani*, *Wald.*, *Ann. Nat. Hist. Ser.* 4, xiv. p. 158; *id.*, *Ibis*, 1875, p. 461; *Hume*, *Str. F.* iv. p. 287; *Hume and Dav.*, *Str. F.* vi. p. 84; *Hume*, *Str. F.* viii. p. 36; ix. p. 247; *Oates*, *B. Br. Burm.* ii. p. 73.—THE MALAYAN KINGFISHER.

Top of the head black, barred across with bright blue; lores ferruginous, bordered below by a narrow black line; sides of the head bright blue; back, rump and upper tail coverts shining cobalt; scapulars and upper wing coverts blue, each feather tipped with brighter blue; primaries and their coverts black, the inner webs of primaries rufous; secondaries and tertiaries brown, washed externally with blue; chin, throat, and a long patch on each side of the neck white, tinged with buffish; under surface of the body chestnut. The young have the cheeks and ear coverts ferruginous. The adult female is not unlike the male, except that in some specimens there are traces of ferruginous on the cheeks and ear coverts. Bill black, the base and gape orange; irides dark brown; legs bright red.

*Length*.—6 to 6·2 inches; tail 1·2; wing 2·5; tarsus 0·3; bill from gape 1·8.

*Hab.*—British Burmah, where it is said to be very locally distributed. It has been got on the Pegu hills, also in dense jungle north of Kyakpadien. According to Oates it is also found in the Malay Peninsula, Andamans, Sumatra, Java, Borneo, and some of the further islands. It is said to be restricted to dense forests, where the ground is broken up by nullahs and ravine. Breeds in July. Eggs, 4 to 6 in number, glossy white and almost spherical.

**1114. *Alcedo euryzona*, Tem., Pl. Col. livr. 86; Sharpe, Mon. Alced. p. 29, pl. 8; Salvad., Ucc. Born. p. 95; Tweed, Ibis, 1877, p. 297; Hume, Str. F. viii. p. 49. *Alcedo nigricans*, Blyth, J. A. S. B. xvi. p. 1180; Hume and Dav., Str. F. vii. p. 81; Hume, Str. F. viii. p. 86; Bingham, Str. F. ix. p. 156; Oates, B. Br. Burm. ii. p. 754.—THE BROAD-BELTED KINGFISHER.**

Forehead, crown and nape dull black, barred with greenish blue; back and rump silvery blue; upper tail coverts brighter and deeper blue; tail black, with a bluish tinge; lesser wing coverts and scapulars dull black, tinged near the tips with dull blue; median and greater wing coverts dull black, margined with bright blue; quills dull brown, edged partially with dull blue; lores ferruginous; cheeks and ear coverts black, the feathers broadly terminated with dull blue; a broad streak on either side of the neck white, ending in pale orange; chin and throat white; breast dull blue, the white bases of the feathers appearing in places; sides of the breast dusky black; sides of the

body white, streaked with brown; abdomen, vent, under wing coverts and under tail coverts white. The female is like the male, but has the chin and throat white and the under surface of the body bright ferruginous; adolescents have the cheeks and ear coverts ferruginous. (*Oates.*) Bill black, paler or browner on the lower mandible; irides deep brown; legs and feet vermillion. The female has the upper mandible black and the lower one red. (*Davison.*)

*Length.*—8 inches; tail 1·6; wing 3·4; tarsus 0·5; bill from gape 2·2.

*Hab.*—British Burmah, in Tenasserim, from the extreme south to about the latitude of Moulmein. It has also been obtained at Malcoon. Ranges to Malacca, Sumatra, Java and Borneo.

#### Gen. *Ceryle*.—*Boie.*

Bill long, straight, compressed, and acute at tip; culmen obtuse, somewhat flattened and margined on each side by an indented groove; tail slightly lengthened, rounded; wings long; 2nd and 3rd quills subequal; inner toe longer than the hinder.

**1115. *Ceryle guttata*** (*Vigors*), *Ferd.*, *B. Ind.* i. p. 234, No. 137; *Sharpe, Mon. Alced.* p. 57, pl. 18; *Hume, Nests and Eggs Ind. B.* p. 110; *id.*, *Str. F.* ii. p. 470; *Wald. in Blyth's B. Burm.* p. 71; *Inglis, Str. F.* v. p. 19; *Hume and Dav.*, *Str. F.* vi. p. 85; *Hume, Str. F.* viii. p. 86; *Bingham, Str. F.* viii. p. 193; ix. p. 156; *Oates, B. Br. Burm.* ii. p. 764.—The HIMALAYAN SPOTTED KINGFISHER.

Whole upper plumage black, barred with white; crest feathers mostly white, tipped with black; sides of the head black, streaked with white; sides of the neck and a band across the breast black; cheeks, ear coverts, patch on the hind neck, chin, throat, breast, abdomen, vent and under tail coverts also the under wing coverts pure white; sides of the body white, barred with black. The under wing coverts of the female are buffish. Bill black; irides dark brown; legs brownish black.

*Length.*—15·6 to 16 inches; tail 4·8; wing 7·2; tarsus 0·5; bill from gape 3·3.

*Hab.*—The Himalayas to Cashmere. Occurs in Cachar, the Daffa Hills, in Assam, Arrakan and Pegu in British Burmah. It has also been met with along the hill streams north of Pahpoon, in Tenasserim. Breeds in the sub-Himalayan range from April to June, laying 4 pure white, glossy eggs, in holes of river banks.

**1116. *Ceryle rudis*** (*Linn.*), *Ferd.*, *B. Ind.* i. p. 232, No. 136; *Sharpe, Mon. Alced.* p. 61, pl. 19; *Hume, Nests and Eggs, Ind. B.* p. 109; *id.*, *Str. F.* iii. p. 52; *Dresser, B. Eur.* v. p. 125, pl.; *Blyth, B. Burm.* p. 71; *David et. Oust. Ois. Chine*, p. 77; *Legge, B. Ceylon* p. 288; *Oates, Str. F.* v. p. 143; *Hume and Dav.*, *Str. F.* vi. p. 85; *Hume, Str. F.* viii.

p. 86; *Bingham, Str. F.* ix. p. 157; *Murray, Hdbk. Zool., &c., Sind*, p. 129; *id., Vert. Zool., Sind*, p. 112; *Oates, B. Br. Burmah* ii. p. 77.—The PIEN KINGFISHER.

Head, hind neck, and a broad streak behind the eye extending down the sides of neck black, finely streaked with white; supercilium white; chin, throat, sides of the neck, and upper breast white; the latter with a few of the feathers tipped black in some specimens; lower parts white, with a broad band of black, and a narrower one also, in males, across the lower breast, and in some specimens a few dark spots on the abdomen and flanks; primaries black; edge of the outer web of the first primary and the bases of the others white, forming a conspicuous white band; primary coverts black; back, rump, upper tail coverts and scapulars black, tipped broadly with white; tail black, the feathers basally and at the tips white. Bill black; legs dusky brown; irides dark brown.

*Length*.—10·5 to 11 inches; wing 5·5; tail 3; bill at front 2·3.

*Hab*.—S.-E. Europe, N.-E. Africa, Western Asia, Burmah and Malayana. Found all over India to Nepaul. In Sind it is a resident and breeds in holes along the banks of the Indus and canals from March to May. Eggs 2—4 in number, oval, white.

### Sub-Family.—HALCYONINÆ.

Kingfishers of larger size than the Alcedinidæ, with strong, thick and straight bills, broad at the base, with the culmen flattened and slightly inclining upwards to the tip, groove of upper mandible strongly marked; wings short and broad; tarsus and toes small and feeble, the latter nearly syndactyle; rictus smooth.

### Gen. *Halcyon*.—Swainson.

Bill long and straight, somewhat quadrangular; lower mandible angulated; nostrils hidden by plumes; 3rd quill longest, 4th and 5th subequal; tail short, rounded or even; outer toe nearly as long as the middle one.

**1117. *Halcyon coromanda*** (*Lath.*), *Sharpe, Mon. Alced.* p. 55, pl. 57; *Hume, Str. F.* ii. pp. 169, 494; *Blyth, B. Burm.* p. 70; *Wardlaw-Ramsay, Ibis*, 1877, p. 456; *Hume and Dav., Str. F.* vi. p. 75; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* ii. p. 81. *Alcedo coromanda*, *Lath., Ind. Orn.* i. p. 252. *Halcyon coromandelianus* (*Scop.*), *Ferd., B. Ind.* i. p. 227, No. 131. *Callialcyon coromanda*, *Salvad, Ucc. Born.* p. 101; *Dav. et Oust. Ois. Chine*, p. 76.—The RUDDY KINGFISHER.

Whole upper plumage rich rufous, overlaid with shining peach lilac, except on the forehead; crown, lores, sides of the face and quills, also the inner webs of quills dull rufous; band across the middle of the lower back and rump bluish white; chin white; rest of under surface of the body ferruginous; bill and legs red; irides brown.

*Length*.—10 to 10·5 inches; tail 2·7 to 2·75; wing 4·2 to 4·5; tarsus 0·6; bill from gape 2·5.

*Hab*.—The Himalayas, at the base, also in Nepaul and Sikkim; in the Sunderbuns and along the eastern coast of the Bay of Bengal it is common. It occurs in the Andamans, the Malay Peninsula, Sumatra, Java, Borneo, the Phillipines, Formosa and China; also in British Burmah. In the latter, according to Oates, it is one of the rarest. Davison found it throughout Tenasserim, but chiefly near the sea. Malewoon and Pegu are other localities whence it has been procured.

**1118. *Halcyon smyrnensis* (Linn.), Sharpe, Mon. Alced. p. 161, pl. 59; Hume, Nests and Eggs Ind. B. p. 105; Dresser, B. Europe v. 133, pl.; Blyth, B. Burm. p. 70; Armstrong, Str. F. iv. p. 306; Oates, Str. F. v. p. 143; Hume and Dav. Str. F. vi. p. 74; Legge, B. Ceylon p. 298; Hume, Str. F. viii. p. 85; Bingham, Str. F. ix. p. 154; Oates, B. Br. Burm. ii. p. 82; Murray, Vert. Zool., Sind, p. 110. Alcedo smyrnensis, Linn., Syst. Nat. i. p. 181. Alcedo fuscus, Bodd., Tabl. pl. Enl. p. 54; Halcyon fuscus, Ferd., B. Ind. i. p. 224, No. 129.—The WHITE-BREASTED KINGFISHER.**

Whole head, neck, abdomen, under tail and lesser wing coverts rich chestnut; scapulars, tertiaries, back, rump and upper tail coverts, also the greater coverts and winglet blue; the scapulars and tertiaries more dull; median wing coverts black; quills blue, broadly tipped with black, with a broad oblique bar of white on the inner webs of the primaries; chin, throat, neck in front and breast white. Tail blue, the margins of their inner webs dusky brown, except the centre feathers, which are wholly greenish blue. Bill coral red; feet vermilion red; eyes brown.

*Length*.—10·5 inches; wing 4·5 to 4·75; tail 3; bill at front 2·25.

*Hab*.—The Peninsula of India and Ceylon to the base of the Himalayas, extending to the Indo-Burmese countries, Singapore and China. Recorded from the Concan and Deccan, Kutch, Kattiawar, Jodhpore, Sambur, N. Guzerat, Travancore and Nepaul. Breeds all over India nearly, from March to July, laying 4–7 eggs in a hole excavated by itself in banks of tanks, and canals or streams, also in the interior of wells, or on cliffs overlooking rivers. Eggs spherical; some are slightly oval. Like those of its congeners, they are pure white. In length they vary from 1·05 to 1·27 inch and in breadth from 0·97 to 1·12 inch.

**1119. *Halcyon pileata* (Bodd.), Sharpe, Mon. Alced. p. 169, pl. 62; Hume, Str. F. iii. p. 51; Blyth, B. Burm. p. 70; Armstrong, Str. F. iv. p. 306; Legge, B. Ceylon p. 301; Hume and Dav., Str. F. vi. p. 74; Hume, Str. F. viii. p. 85; Bingham, Str. F. viii. p. 193; ix. p. 154; Oates, Str. F. x. p. 187; id., B. Br. Burm. ii. p. 83. Alcedo pileata, Bodd., Tabl.**

*Pl. Enl.* p. 41. *Alcedo atricapilla*, *Gm., Syst. Nat.* i. p. 453. *Halcyon atricapillus*, *Ferd., B. Ind.* i. p. 226, No. 130. *Entomobia pileata*, *Salvad, Ucc. Born.* p. 102.—The BLACK-CAPPED PURPLE KINGFISHER.

Whole head black, also the moustache; whole upper parts glossy rich violet purple, brighter on the rump; tail rich violet purple; all except the central pair of feathers margined with black on the outer webs and tipped very narrowly with whitish; lesser and median wing coverts black; primary coverts blue; primaries white, tinged with blue on the outer webs, black at the ends; shafts of the first six black; secondaries and tertiaries blue on the outer webs, all tipped black; wing bar white, and conspicuous; chin, throat and neck white, tinged with fulvous; breast pale fulvous, with crescentic brown markings; abdomen white, rest of lower surface, including the under wing coverts rich fulvous; bill dark red; irides brown; legs coral red.

*Length.*—11·5 to 12 inches; tail 3·5 to 3·7; wing 4·7 to 5·3; tarsus 0·7; bill from gape 2·8.

*Hab.*—The Malabar Coast, Bengal, in the Sunderbuns, Ceylon, the Andaman Islands, China, Siam, Cochin-China, Philippines, Sumatra, Borneo, and British Burmah, in which last province it said by Oates to be abundant in all the maritime portions and up the larger rivers. It feeds both on fish and small reptiles, also insects of sorts.

**1120. *Halcyon chloris* (Bodd.), Sharpe, Mon. Alced. p. 229, pl. 87; Hume, Str. F. i. p. 451; id., Str. F. ii. p. 170; Armstrong, Str. F. iv. p. 306; Hume and Dav., Str. F. vi. p. 78; Hume, Str. F. vii. p. 169; viii. p. 86; Kelham, Ibis, 1881, p. 381; Oates, Str. F. x. p. 187; id., B. Br. Burm. ii. p. 85. *Alcedo chloris*, Bodd., Tabl. Pl. Enl. p. 40. *Alcedo collaris*, Scop. Del. Fl. et Faun. Insub. ii. p. 90. *Todiramphus collaris*, Ferd., B. Ind. i. p. 225, No. 132. *Sauropatis chloris*, Salvad, Ucc. Born. p. 103; Blyth, B. Burm. p. 71.—The WHITE-COLLARED KINGFISHER.**

Forehead, crown, nape, band under the ear coverts and eye, upper back and scapulars green tinged with blue; ear coverts and a narrow band encircling the nape black; lower back, rump, wing coverts and upper tail coverts bright blue; tail deeper blue; quills dark brown, broadly edged with deep blue; lores black; a band above these to the eye white; the whole lower plumage, under wing coverts and a broad collar round the neck pure white. (*Oates.*) Bill with the upper mandible, and the tip and edge of lower one greenish black; rest of lower mandible pinkish white; irides deep brown; legs and feet plumbeous in front; behind and the soles, in some bluish, in some pinkish grey. (*Davison.*)

*Length.*—9 to 9·5 inches; tail 2·7 to 2·9; wing 4 to 4·25; tarsus 0·6; bill from gape 2·2.

*Hab.*—British Burmah, where, according to Oates, it is found generally along the sea coast, penetrating inland for some distance at times. He shot a

specimen, he adds, in the town of Pegu, fully sixty miles from the sea, but where the river is tidal and the water brackish. It extends up the coast to the Bengal Sunderbuns, but it has not been recorded from any other part of the Peninsula of India, except the neighbourhood of Bombay. It has also been procured in the Red Sea. Oates adds that it is abundant in the Andaman Islands, and ranges down the Malayan Peninsula to Sumatra, Java and Borneo. It is also recorded from Siam and Cochin-China. It is a bird of tidal waters, and lives principally on crabs and fish left stranded on mud banks at low water. It breeds in Burmah. Mr. Davison is said to have found its nest in a deserted ants' nest in a garden in Tenasserim. According to Bernstein the eggs are laid on a few dry leaves and pieces of moss. Nothing appears to be known of the number and colour of the eggs. An allied species, *Halcyon occipitalis*, is found in the Nicobar Islands. It differs from the present species in having a broad buff band surrounding the crown of the head, from the forehead to the nape.

**1121. *Halcyon concreta* (Temm.), Sharpe, Mon. Alced. p. 219, pl. 83; Hume and Dav., Str. F. vi p. 76; Hume, Str. F. viii. p. 86; Oates, B. Br. Burmah ii. p. 84. *Dacelo concreta*, Temm., Pl. Col. 346. *Cari-dagrus concretus*, Salvad, Ucc. Born. p. 102.—THE SUMATRAN KINGFISHER.**

Forehead, crown and nape dull green; lores, and a broad band through the eyes and ear coverts completely encircling the head, black; a broad moustachial line an inch and a half long blue, tipped with black near the end; a narrow supercilium from the nostrils to the end of the ear coverts, also the space between the black and blue bands of the head and a broad collar round the upper back, the sides of the neck also, and the whole lower plumage orange buff, paling on the vent and under tail coverts; a patch on either side of the breast blackish; the back immediately next the orange buff, black; wing coverts, secondaries and tail blue; quills dark brown, edged with blue, the tertiaries broadly so; the first primary edged narrowly with orange buff; back, rump and shorter upper tail coverts smalt blue; longer tail coverts deeper blue. The *female*, according to Hume, resembles the male generally, but differs in having the interscapular region, outer portion of secondaries, visible portion of tertiaries and scapulars all green, with the feathers of the coverts and scapulars marked with a buffy-white subterminal spot. (Oates.) Lower mandible of bill, gape and a stripe on the upper mandible parallel to commissure from base to point, bright yellow to chrome yellow; eyelids of the same colour; rest of upper mandible dull black. (Davison.)

*Length*.—9 inches; tail 3·8; wing 4·5; tarsus 0·7; bill from gape 2·7.

*Hab.*—British Burmah in the extreme south of Tenasserim at Bankasoon and Malewoon, where Messrs. Davison and Oates procured it. It extends down the Malay Peninsula, and occurs in Sumatra and Borneo. Oates, quoting Davison, says it frequents dense forests and is not found near water; also that it feeds on lizards and woodlice.



Gen. **Carcineutes**.—*Cab. et Hein.*

Bill wide, but less compressed at the tip, which is hooked ; other characters as in *Halcyon*.

**1122. *Carcineutes pulchellus* (Horsf.), Sharpe, Mon. Alced.** p. 251, pl. 96 ; *Blyth and Wald., B. Burm.* p. 70 ; *Hume and Davison, Str. F.* vi. p. 79 ; *Hume, Str. F.* viii. p. 86 ; *Bingham, Str. F.* viii. p. 193 ; *id., Str. F.* ix. p. 154. *Dacelo pulchella, Horsf., Trans. Linn. Soc.* xiii. p. 175. *Carcineutes amabilis, Hume, Str. F.* i. p. 474 ; *Sharpe, Str. F.* ii. p. 484 ; *Hume, Str. F.* iii. p. 51.—The Banded Kingfisher.

Forehead, lores, cheek, ear coverts and collar on the nape chestnut ; crown and nape bright smalt blue ; upper plumage black, barred with white, and tipped with blue ; lesser wing coverts black, tipped with blue ; rump with the white bars interrupted ; central tail feathers black, barred with blue and with some white spots on the inner webs ; primaries and secondaries black, the latter with white spots on both webs ; chin, throat, upper breast, abdomen, vent and under tail coverts white ; sides of the body and lower breast buff or buffish. The *female* is chestnut, barred with black ; the spots on the quills are also chestnut ; lower plumage white. Bill bright red ; eyelids salmon-red ; irides yellowish white ; legs plumbeous, tinged with greenish.

*Length*.—9·2 to 9·5 inches ; tail 3·5 ; wing 3·5 ; tarsus 0·6 ; bill from gape 2.

*Hab.*—British Burmah in Pegu and Tenasserim. Ranges down the Malay Peninsula and occurs in Sumatra and Java. Like the last, it is not found in the vicinity of water, and feeds on lizards, woodlice, &c.

Gen. **Ceyx**.—*Iacép.*

Bill comparatively large, wide, barely grooved ; gonys inclined upwards ; culmen flattish ; tail short ; feet with only three toes, two in front and one behind.

**1123. *Ceyx tridactyla* (Pallas.), Jerd., B. Ind.** i. p. 229, No. 133 ; *Sharpe, Mon Alced.* p. 119, pl. 40 ; *Hume, Str. F.* iii. p. 51 ; *Blyth, B. Burm.* p. 71 ; *Legge, B. Ceylon*, p. 303 ; *Hume and Dav., Str. F.* vi. p. 30 ; *Hume, Str. F.* viii. p. 86 ; *Bingham, Str. F.* viii. p. 193 ; ix. p. 155 ; *Oates, Str. F.* x. p. 187.—The Three-toed Kingfisher.

Lores and base of upper mandible blue-black ; forehead, crown and nape rufous, glossed with black ; cheeks, ear coverts and lower plumage buffy yellow, tinged with rufescent on the breast ; behind the ear coverts a bluish-black spot and below it a patch of white ; upper back black, streaked with lustrous blue ; lower back, rump and upper tail coverts rich rufous with a lilac gloss ; scapulars and lesser wing coverts black, tipped and margined with blue ; greater coverts and quills black ; the secondaries and tertiaries

edged with blue; tail chestnut, tipped narrowly with brown; under wing coverts pale rufous. Bill coral red; irides dark brown; legs red.

*Length*.—5·4 inches; tail 1·1; wing 2·2; tarsus 0·3; bill from gape 1·55.

*Hab*.—The greater part of India and Ceylon, also British Burmah, the Malay Peninsula, Sumatra and Java. It has been recorded from South India and the Deccan; also from Arrakan, Bengal, and Pegu. Affects rocky streams in dense forests. Breeds in Ceylon.

**Gen. Pelargopsis.**—*Gloger*.

Kingfishers with large, stout bills, broad at the base, and the culmen inclining upwards towards the tip; rictus smooth; margin of culmen slightly sinuated; lower mandible angulated; gonys ascending; groove of the upper mandible strongly marked for about two-third its length.

**1124. Pelargopsis gural** (*Pearson*), *Sharpe, Mon. Alced.* p. 97, pl. 29. *Halcyon leucocephalus*, *Jerd., B. Ind.* i. p. 222, No. 127; *Hume, Nest and Eggs Ind. B.* p. 105; *Oates, B. Br. Burm.* ii. p. 79 (note).—The BROWN-HEADED or the INDIAN STORK-BILLED KINGFISHER.

Head, lores, cheeks and nape olive brown or dark olive brown; hind neck above the scapulars and scapulars dingy brownish green; quills, sides of lower back, upper tail coverts and tail dull bluish green, the quills tipped with dusky black; the inner webs of all also dusky; middle of back to rump light bright azure blue; chin and throat yellowish white, becoming buffy like the sides of the neck, with which it joins; rest of lower plumage orange buff; bill dark blood red; legs coral red; irides light brown.

*Length*.—16 inches; tail 4; wing 6; bill at gape 4 inches.

*Hab*.—Southern India and Ceylon to Bengal and the Himalayas, affecting well-wooded forests. In Malabar Jerdon says it is common; rare in the Carnatic; found occasionally in Central India and the Northern Circars. Breeds in the lower Himalayas during June. Eggs, 4 in number, round, pure white; size 1·09 × 1·02 inch.

**1125. Pelargopsis amauroptera** (*Pearson*), *Sharpe, Mon. Alced.* p. 97, pl. 30; *Blyth, B. Burm.* p. 70; *Armstrong, Str. F.* iv. p. 305; *Hume and Davison, Str. F.* vi. p. 73; *Hume, Str. F.* viii. p. 85; *Oates, B. Br. Burm.* ii. p. 78. *Halcyon amauroptera*, *Pearson, J. A. S. B.* x. p. 635; *Jerd., B. Ind.* i. p. 224, No 128.—The BROWN-WINGED STORK-BILLED KINGFISHER.

Whole head, neck, under surface of the body, and the under wing coverts deep ochraceous fawn or buff; the neck in some specimens which are not quite adult obsoletely barred with black; sides of the back and of the upper tail coverts dark cinnamon brown; middle of back, the rump, and the shorter upper tail coverts bright silvery cærulean blue; wings and tail dark cinnamon brown.

Adolescent birds have the wing coverts edged with fulvous. Bill deep crimson; legs coral red; irides brown.

*Length*.—14 inches; tail 4; wing 5·8; tarsus 0·6; bill from gape 3·7.

*Hab*.—British Burmah, extending along the Coast north to Bengal and south to Ceylon and the Malay Peninsula. Oates says it occurs along the whole sea coast line of British Burmah, going inland only as far as the tidal waters penetrate.

**1126. *Pelargopsis burmanica*, Sharpe, P. Z. S. 1870, p. 67; id., Mon. Alced. p. 109, pl. 35; Ball, Str. F. i. p. 57; Hume, Str. F. ii. p. 165; iii. p. 50; Blyth, B. Burm. p. 70; Bingham, Str. F. v. p. 83; Hume and Dav., Str. F. vi. p. 73; Hume, Str. F. viii. p. 85; Bingham, Str. F. ix. p. 154; Oates, B. Br. Burm. ii. p. 78.**—THE BURMESE STORK-BILLED KINGFISHER.

Whole head brown; entire under surface of the body, including the under wing coverts, orange buff, paler on the chin and throat; lower neck, breast and abdomen with undulating cross bars of brown; collar round the neck orange buff; upper back and upper surface of body greenish blue; lower back, rump and the shorter tail coverts ultramarine blue; quills greenish blue externally, and brown on the inner webs; tail purplish blue. The *female* has the feathers of the back and scapulars tinged with brown. Bill dark red, brown at the tip; irides dark brown; legs pale red.

*Length*.—14·5 inches; tail 4·5; wing 6; tarsus 0·7; bill from gape 3·75.

*Hab*.—British Burmah, where Oates says it is abundant over the whole of Pegu and Tenasserim. It is also recorded from the Andaman Islands and from Siam, and it is said to extend down the Malay Peninsula. Oates adds that it has a very loud and striking note and that it feeds on fish and reptiles. The nest he found in a hole of a river bank near Pegu in April contained four eggs; though the colour is not stated, they were, of course, pure white. *Pelargopsis intermedia*, Hume, is found in the Nicobar Islands.

### Family.—BUCEROTIDÆ—HORN BILLS.

A group of large birds distinguished by the enormous size of their bills which are arched or curved, and have in most species an appendage or casque placed above the culmen from the base to about the middle of the upper mandible, or is as large as the bill itself. This is hollow and cellular internally, and in one or two species solid. The bill is wide at the base and more or less dilated; the tip is acute and the margins denticulated. The casque is small at first and is developed by age. The throat is usually naked, also the sides of the face and the orbital region; eyelids protected by eyelashes; wings short and ample, the 4th and 5th quills longest; secondaries long and nearly equal to the primaries; tail of ten feathers, long, rounded, the centre pair of

feathers generally elongated; tarsi short, stout, transversely scutate in front, reticulated behind; outer toe joined to the middle one nearly to the apex; inner toe less so. They live in pairs, and subsist entirely on fruit, which they swallow whole, first tossing it up in the air after breaking it off the tree, and catching it again. They breed in holes of trees, and lay 2—4 white eggs. The male birds is said to plaster up the female during the whole time of incubation and till the young are fledged. In fact, Mr. Wallace vouches for this. Mr. Hume quotes an account of his nesting experience of *D. bicornis* in Sumatra to the same effect. It is, as he says, "one of those strange facts in Natural History which are stranger than fiction."

### Gen. *Dichoceros*.—*Gloger*.

Bill with a broad flat casque, extending backwards over the head for more than half the length of the bill, and descending to meet the bill at a right angle. Plumage black and white.

**1127. *Dichoceros bicornis*** (Linn.), *Hume, Nests and Eggs Ind. B.* p. 112; *Blyth and Wald., B. Burm.* p. 68; *Elliot, Mon. Bucer.* pl. vi.; *Wardlaw-Ramsay, Ibis*, 1877, p. 454. *Oates, B. Br. Burmah*, ii. p. 87. *Buceros bicornis*, Linn., *Syst. Nat.* i. p. 153. *Buceros cavatus*, *Shaw, Gen. Zool.* viii, p. 18. *Buceros homrai*, *Hodgs., J. A. S. B.* i. p. 251. *Homrais bicornis*, *Jerd., B. Ind.* i. p. 242, No. 140. *Dichoceros homrai*, *Hume, Nests and Eggs Ind. B.* p. 111; *id., Str. F.* iii. p. 55. *Dichoceros cavatus*, *Bourdillon and Hume, Str. F.* iv. p. 384; *Inglis, Str. F.* v. p. 20; *Hume and Dav., Str. F.* vi. p. 98; *Oates, Str. F.* vii. p. 45; *Hume, Str. F.* viii. p. 86; *Bingham, Str. F.* viii. p. 461; ix. p. 158.—THE GREAT PIED HORNBILL.

Head and a band round the base of the bill black; a broad band round the neck white, tinged with fulvous; lower rump, upper and under tail coverts, lower abdomen and vent white; tail white, with a broad band of black towards the terminal third; rest of the plumage black; quills broadly tipped with white, and with a white wing spot formed by the edges of the greater coverts; base of the primaries white (the first two excepted); primary coverts tipped with yellowish white.

Bill and casque yellow, tinged with orange at the tip and in the middle; base of the casque, a triangular patch on each side of the anterior end of it with the junction of the casque and bill black; cutting edges black; orbital skin black. In the female the lower mandible is whitish, the base black; upper mandible and casque yellowish orange, turning red at the base and at the tip of the casque; base of upper mandible near the eye and orbital skin black; irides bluish white; eyelids orange brown; legs plumbeous.

*Length*.—51 inches; tail 18·5; wing 20·5; tarsus 2·8; bill from gape 10·3. The female is smaller, and measures only 46 inches, with a wing of 19·5; bill from gape 9·5.

*Hab.*—Southern India, British Burmah, northerly extending through the Indo-Burmese countries and the hill tracts of Eastern Bengal to the Himalayas. To the South of Burmah it ranges down the Malay Peninsula to Sumatra. Jerdon says it is found in the forests of Malabar from the extreme south up to Goa, and I have had it at Rutnagherry also. It is common in Assam, on the Eastern slopes of the Neilgherries, near Darjeeling and the Sikkim Himalayas. It is generally found in pairs, or in small flocks of from six to twenty individuals, in the densest parts of forests. The breeding season commences late in February or early in March. A large natural hollow is selected, and the female is immured therein with a mixture of dung, bark, earth, leaves, &c., till the young are fledged. The female is all this time assiduously fed by the male. Eggs two in number, white, but much stained with yellow at times.

Gen. **Anthracoceros**.—*Reich.*

Bill with a long, sharp, acute casque, extending from the base of the bill over two-thirds its length.

**1128. *Anthracoceros coronatus*** (*Bodd.*), *Jerd.*, *B. Ind.* i. p. 245, No. 141; *Hume, Str. F.* ii p. 388. *Buceros coronata*, *Bodd.*, *Tabl.*, *Pl. Enl.* 873. *Hydrocissa coronata*, *Elliot, Mon. Bucer.* pl. xii.—The MALABAR PIED HORNBILL.

Plumage entirely black, except beneath from the breast, the tips of the primaries and secondaries, the three outer tail feathers on each side and the next pair which are white; bill and part of the casque yellowish white; base of both mandibles black, also the hind margin of the casque of the male; a patch of black on the anterior three-fourths in adults; casque large, compressed laterally, protruding back over the crown and ridge.

*Length.*—3 feet; wing 13 inches; tail 14; bill from gape 7 inches; height of bill with casque 4 inches; naked skin on the throat pale, livid fleshy; irides crimson.

*Hab.*—Southern India, also Malabar, Goomsoor and Central India. Extends also to Ceylon. Habits same as the last.

**1129. *Anthracoceros albirostris*** (*Shaw*), *Oates, B. Br. Burm.* ii. p. 90. *Buceros albirostris*, *Shaw, Gen. Zool.* viii. p. 13; *Tickell, Ibis*, 1864, p. 179. *Hydrocissa albirostris*, *Jerd.*, *B. Ind.* i p. 247; *Salvad., Ucc. Born.* p. 82; *Blyth, B. Burm.* p. 68; *Wardlaw-Ramsay, Ibis*, 1877, p. 455; *Oates, Str. F.* vii. p. 46; *Hume, Str. F.* viii. p. 86; *Bingham, Str. F.* viii. p. 462; ix. p. 158. *Anthracoceros malabaricus* (*Gm.*), *Elliot, Mon. Bucer.* pl. xiii. (part).—The SMALL PIED HORNBILL.

Plumage black, more or less glossy; below from the breast, including the sides of the body to the under tail coverts white, also the broad tips to the

four outer pairs of tail feathers, and the tips of the primaries and secondaries (the first two primaries excepted) and the edge of the wing. Casque bulging; a small patch upon it black on the extreme tip of the ridge, continued over part of the middle of the upper mandible; cutting edges black; bill yellowish white; base of both mandibles black, extending to part of the naked skin of the face; orbital skin bluish white; irides red to brown.

*Length*.—28 to 30 inches; tail 11; wing 11; tarsus 2; bill from gape 5.0. The *female* is smaller with a wing of 10 inches; tail the same; bill from gape 4.5.

*Hab.*—Northern India, where it is found in the Midnapore jungles, in Rajmahal, Cachar, and Monghyr; also at the base of the Himalayas. It spreads eastward to Assam, Sylhet and Burmah. Oates says it is abundant over the whole province. Breeds in March. Eggs as of other species; habits also.

**1130. *Anthracoceros affinis* (Hutton), Blyth, J. A. S. B. xviii. p. 473; *Jerd.*, *B. Ind.* i. p. 247, No. 143; *Hume and Dav.*, *Str. F.* vi. pp. 102, 103; *Hume*, *Str. F.* vii. p. 204.**—The DEHRA-DHOON HORNBILL.

Like *Anthracoceros albirostris* but larger. Length 36 inches; wing 13; tail 15; bill at gape 7; height of bill with casque 4; tarsus 2. The black patch at the end of the casque passes down obliquely into the upper edge of the bill, but does not spread further over it; cutting edges black; the posterior margin also black, both on the bill and casque. (*Jerd.*)

#### Gen. *Rhinoplax*.—*Gloger*.

Bill with a short rounded solid casque; ridge elevated and much curved; central tail feathers produced beyond the rest; head, neck, and dorsal region nude.

**1131. *Rhinoplax vigil* (J. R. Forst), Elliot, *Mon. Bucer*, pl. x.; *Hume and Dav.*, *Str. F.* vi. p. 115; *Hume*, *Str. F.* viii. p. 86; *Oates*, *B. Br. Burm.* ii. p. 89. *Buceros vigil*, J. R. Forst., *Ind. Zool.* p. 40. *Buceros scutatus*, Bodd., *Tabl. Pl. Enl.* p. 55. *Buceros galeatus*, Gmel., *Syst. Nat.* i. p. 360. *Rhinoplax scutulatus*, *Salvad.*, *Ucc. Born.* p. 88.**—The SOLID-BILLED HORNBILL.

Forehead, crown and nape, with a short occipital crest dark brown; ear coverts and scattered feathers on the sides of the head brown with rufous edges; rest of the head, neck, and a considerable portion of the back bare and red; upper plumage, wings and breast brown; longer upper tail coverts white; primaries and most of the secondaries tipped with white; abdomen, sides of the body, vent and under tail coverts white; central tail feathers grey, the rest white, all with a broad black subterminal band. (*Oates*.) The whole of the sides

and top of the casque and the sides of both upper and lower mandibles as far as the casque extends are deep crimson; the truncated front of the casque and the whole of the upper mandible behind the casque are a bright orange yellow; \* \* \* irides dark litharge red; legs and feet dirty orange brown; skin of eyelids the same dirty red as the other bare portions. (*Davison.*)

*Length.*—*Male*—To end of elongated tail feathers 43·5 inches; tail to end of lateral feathers 18 inches; wing 19·25; tarsus 3; height of upper mandible and casque 3·5. (*Davison.*)

*Hab.*—Tenasserim in the extreme south at Bankasoon. Extends down the Malay Peninsula and occurs in Sumatra and Borneo. According to Davison, they are shy and confine themselves to the evergreen forests, where they frequent the highest trees.

**1132. *Rhinoplax griseus*, Lath., Ind. Orn. pl.** *Tockus gingalensis*, Shaw, *apud. Ferd.*, *B. Ind.* i. p. 250, No. 145; *id.*, *Suppl. Vol.* i, No. 145; *Elliot, Mon. Bucer pl.*; *Hume, Str. F.* iv. p. 389.—THE JUNGLE GREY HORNBILL.

Head above and back dark cinerous brown, with a cast of bluish grey; greater coverts, primaries and secondaries all narrowly edged with whitish and the primaries broadly so, and an oblique white line on the external edge; a pale line over the eyes, extending along the sides of the head; two central tail feathers dusky bluish grey, the rest dusky blackish grey, broadly tipped with white, except the pair next the centrals; beneath light dusky grey, the feathers centred paler; rufescent on the lower abdomen, outer thigh feathers and under tail coverts. Bill dingy deep yellow; irides red brown; feet dark grey. (*Ferd.*)

*Length.*—22 inches; tail 8·5; wing 8·25; bill straight from gape 4·25.

*Hab.*—Malabar forests and Travancore. Like its congeners lives on fruit of various kinds *Rhinoplax gingalensis* is now known to occur in Ceylon only, and does not extend to Southern India.

#### Gen. *Ocyroceros*.—*Hume.*

Bill with a compressed sharp pointed casque.

**1133. *Ocyroceros birostris* (Scop.), Ferd., B. Ind. i. p. 248, No. 144; Hume, Str. F. iii. p. 331.** *Buceros ginginianus*, Lath. *apud. Ferd.*, *B. Ind.* i. p. 248. (*Synon.*) *Buceros griseus*, Lath. *apud. Bonap.*—THE COMMON GREY HORNBILL.

Piumage grey, paler below and albescent from the breast; a dark cinereous streak over the eye and ear coverts; primaries and secondaries dusky black, the secondaries margined with grey and all tipped white; first three primaries margined paler externally, and with an oblique white streak about the middle; tail subterminally black and tipped with white; bill and

casque dusky ; tip of both mandibles and ridge of the upper whitish ; ridge acute anteriorly, hind part hidden by the feathers of the forehead, which are recumbent over it.

*Length*.—22 to 22·5 inches ; tail 10·5 ; wing 8 ; bill from gape 5 inches ; tarsus 1·75 ; irides red-brown ; feet dark plumbeous.

*Hab*.—Throughout all India nearly, in well-wooded districts. More plentiful in Southern India, rare, if found at all in countries to the eastward. In Malabar it appears to be replaced by the preceding.

### Gen. *Rhytidoceros*.—*Reich*.

Bill with a small casque ; corrugations black and yellow.

**1134. *Rhytidoceros subruficollis*, Blyth, J. A. S. B. xii. p. 177 ; Elliot, Mon. Bucer. pl. xxxvi. Bucerus pusaran, Tiel., Ibis, 1864, p. 180 (part). Rhyticeros subruficollis, Hume, Nests and Eggs, p. 115. Wardlaw-Ramsay, Ibis, 1877, p. 455 ; Hume and Dav., vi. p. 112 ; Hume, Str. F. viii. p. 86 ; Bingham, Str. F. viii. p. 463 ; ix. p. 159. Aceros subruficollis, Blyth and Wald., B. Burm. p. 69 ; Oates, Str. F. vii. p. 46. Bucerus subruficollis, Tweed., Ibis, 1877, p. 295.—BLYTH'S WREATHED HORN-BILL.**

Sides of the crown, cheeks, ear coverts and forehead pale golden fulvous ; a broad line passing from the base of the bill over the head, widening out to the full width of the neck and reaching down to the back, rich dark golden brown ; feathers at the base of the upper mandible the same rich colour ; sides of the neck, chin, throat and upper breast white, tinged with pale shining fulvous ; tail white, with a trace of black at the base, remainder of the plumage glossy black, with green and bronze reflections, especially strong on the back and scapulars ; the first and second primaries tipped slightly with white ; eyelashes black ; the base of the casque and basal third of bill brownish red ; the corrugations of the casque black in the valleys and yellowish on the ridges ; the terminal two-thirds of the bill pale yellow ; gular skin bright gamboge yellow ; eyelids pinkish flesh colour, the edges red ; iris bright pink ; legs and claws dark brown. The female has the tail white as in the male ; with this exception, the whole plumage is black. On the breast there is generally, but not always, a pale fulvous crescentic patch ; this is probably a sign of immaturity ; base of the upper mandible and base of casque reddish brown ; base of lower mandible black ; remainder of bill yellowish white ; iris orange-red ; eyelids deep reddish brown ; orbital skin purplish brown ; gular skin smalt-blue, changing to yellow at the junction with the feathered parts all round ; legs deep brownish ; claws dark brown. (*Oates*.)

*Length*.—34 inches ; tail 11 ; wing 15·5 ; tarsus 2·2 ; bill from gape 7·0.



The female is considerably smaller, the wing being about 16, and the total length about 30 inches; bill from gape 6·0; the casque in this and the next species is small, extending over about half the bill, and is transversely ribbed; the number of corrugations on the casque varies considerably, sometimes being only two, sometimes as many as five. Young birds at first have the casque smooth. Blyth's Wreathed Hornbill is found locally throughout British Burmah. According to Oates it is spread over the eastern portion of the Pegu division. It is abundant in Tenasserim, from Moulmein to Tavoy, but almost absent in the country south. Invariably seen in large flocks. Breeds in February and March, laying three eggs. Size 2·20 inches  $\times$  1·55, pure white.

**1135. *Rhytidoceros undulatus* (Shaw), Elliot, Mon. Bucer.** pl. xxxv.; *Tweed., Ibis*, 1877, p. 292. *Rhyticeros undulatus*, *Hume and Dav., Str. F.* vi. p. iii.; *Hume, Str. F.* viii. p. 86; *Bingham, Str. F.* viii. pp. 194, 463; *id., Str. F.* ix. p. 159; *Oates, Str. F.* ii. p. 93. *Buceros undulatus*, *Shaw, Gen. Zool.* viii. p. 26; *Buceros pusaran* (*Raffles*), *Tick., Ibis*, 1864, p. 180 (part). *Rhyticeros obscurus* (*Gm.*), *Hume, Nests and Eggs Ind.* B. p. 115. *Rhytidoceros obscurus* (*Gm.*), *Salvad., Ucc. Born.* p. 85. *Aceros plicatus* (? *Lath.*), *Blyth, B. Burm.* p. 69.—THE MALAYAN WREATHED HORNBILL.

Similar to *Rhytidoceros subruficollis*, but differs in being larger, in having the wing of a different shape, the secondaries and tertiaries being nearly as long as the primaries, and in having several ridges or ribs on the sides of both mandible, near the gape. A black band across the gular pouch, more or less broken in the centre. (*Oates*.)

*Length*.—40 inches; tail 12·5; wing 19; tarsus 2·5; bill from gape 8·0. The female is smaller. Length 35 inches, with a wing of 17, and tail 11·0.

*Hab.*—Tenasserim. Recorded also from Arrakan, Chittagong, Cachar, the hill tracts of Eastern Bengal and Assam. Ranges down the Malay Peninsula, and occurs in Sumatra, Java, and Borneo. Breeds in March. Other species of this genus are *R. plicatus* from New Guinea and *R. narcondami* from the Nicobar Islands. *Rhytidoceros plicatus* is another species said to be got in Arrakan and North Cachar.

**1136. *Aceros nipalensis* (Hodgs.), Yerd., B. Ind.** 1. p. 250; *Blyth, B. Burm.* p. 69; *Gammie, Str. F.* iii. p. 209; *Elliot, Mon. Bucer.* pl. xiv.; *Hume and Dav., Str. F.* vi. p. 110; *Hume, Str. F.* viii. p. 86; *Oates, B. Br. Burm.* ii. p. 98. *Buceros nipalensis*, *Hodgs., Calc. Gleanings Sci.* 1. p. 249; *id., P. Z. S.* 1832. p. 15; *Tick., Ibis*, 1864, p. 182.—THE RUFOUS-NECKED HORNBILL.

## ANORRHINUS.

The whole head, neck and breast bright ferruginous or rufous; ~~abdomen~~ vent and under tail coverts ferruginous bay; feathers of the head long and covering the back; back, rump, scapulars, wings and upper tail coverts glossy black; tips of second to fifth primaries white; tail black basally and white for the terminal third. The *female* is black throughout, the wings and upper plumage glossed with green; the rest as in the male; naked space on the throat vermilion, round the eye blue; lower eyelid pink; bill waxy yellow, with two black bars at base of upper mandible; the lower has a pale soiled appearance for about 1·5 inch. (*Godwin-Austen.*)

*Length.*—45 to 48 inches; tail 18; wing 18; tarsus 2·5; bill from gape 8. The *female* is smaller and measures, length—42 inches; tail 17; wing 16; bill from gape 7·5.

*Hab.*—Tenasserim, Cachar, the hill tracts of Eastern Bengal, and along the Himalayas to Ncpaul. Has been found breeding in Sikkim during May by Mr. Gammie.

### Gen. *Anorrhinus*, *Reich.*

Casque small, smooth, and indistinctly separated from the upper mandible; head crested.

**1137. *Anorrhinus comatus*** (*Raffles*), *Elliot, Mon. Bucer*, pl. xxxix.; *Oates, B. Br. Burm.* ii. p. 94. *Buceros comatus Raffles, Trans. Linn. Soc.* xiii. p. 399. *Berenicornis comatus, Hume and Dav., Str. F.* vi. p. 106; *Hume, Str. F.* viii. p. 86.—The LONG-CRESTED HORNBILL.

Entire head, with long crest, neck, breast, upper abdomen, tail, and tips of all the quills except the first two primaries white; remainder of the plumage black, glossed with green on the wings and scapulars. The *female* has the forehead, crown, nape, crest, tail, and the tips of all quills white; the feathers of the head with black shafts; remainder of the plumage as in the male. (*Oates.*) Legs black; irides wax yellow; facial skin and base of lower mandible deep dull blue; bill black, except the ridge of the casque and some dull green mottlings at the base of both mandibles. (*Davison.*)

*Hab.*—Tenasserim, in the extreme south, ranging down the Malay Peninsula and occurring in Sumatra. According to Davison it keeps about the lower trees and undergrowth, and feeds both on fruit and lizards, also small birds. It is constantly seen on the ground.

**1138. *Anorrhinus galeritus***, *Temm., Pl. Col.* 520; *Salvad., Ucc. Born.* p. 79; *Tweed., Ibis*, 1877, p. 292; *Hume and Dav., Str. F.* vi. p. 109; *Hume, Str. F.* viii. p. 86; *Elliot, Mon. Bucer.* pl. xliii.; *Oates, B. Br. Burm.* ii. p. 95.—The BUSHY-CRESTED HORNBILL.

Head, crest, neck, and entire upper parts dark brown, glossed with green; throat, breast and abdomen dull chocolate brown, also glossed greenish; vent and under tail coverts pale drab; tail pale drab basally and black for the terminal two-fifths. Legs black; irides lake red; gular and orbital skin pale blue; base of throat and eyelids mottled with black and white. (*Hume, ex Oates.*)

*Length*.—35 inches; tail 13; wing 14; tarsus 2; bill from gape 5.2; crest about 5 inches long.

*Hab.*—Tenasserim in the south, from Bankasoon up to Nwalabo mountain. Extends down the Malay Peninsula, and occurs in Sumatra and Borneo.

**1139. *Anorrhinus Tickelli*, Blyth, J. A. S. B. xxiv. pp. 266, 285; *id.*, xxviii. p. 412; *id.*, B. Burm. p. 69; Elliot, Mon. Bucer pl. xliii.; Hume, Str. F. viii. p. 86; Oates, B. Br. Burm. ii. p. 96. Toccus tickelli, Tick., Ibis, 1864, p. 173, pl. iii. Ocyrceros tickelli, Hume and Dav., Str. F. vi. p. 103; Hume, Str. F. vii. p. 499; Bingham, Str. F. viii. p. 462; *id.*, Str. F. ix. p. 158.—TICKELL'S HORNBILL.**

Feathers behind the nostrils pale ferruginous; forehead, crown and nape dark brown, the feathers edged with reddish brown, those on the nape with a grey shaft line; plumage of the upper surface of the body dark brown; the wing coverts and scapulars edged slightly paler; tail dark brown, the feathers edged externally with greyish white, and all broadly tipped white; quills black; the primaries, except the first and last two, with a patch of buff on the outer webs and tipped white; the secondaries edged externally with pale buff; tertiaries brown, edged paler externally; primary coverts black, mottled with white near the tips; cheeks, ear coverts, sides of the neck and the whole lower surface of the body bright ferruginous; bill yellow; a patch of red on either side of the base of the lower mandible; orbital skin pale blue; irides brown; legs dark plumbeous. The female does not differ in any respect from the male. The bill is yellowish, irregularly blotched with greenish; iris light brown. An immature male has the sides of the head, chin, throat and breast with white shaft stripes; but differs in no other respect from the adult.

*Length*.—29 inches; tail 12.5; wing 13; tarsus 1.9; bill from gape 4.6 to 5.2. The *Female*.—*Length*.—27 inches; tail 11.5; wing 12; tarsus 1.8; bill from gape 4.

*Hab.*—Tenasserim, from the head of the Thoungyeen river to its junction with the Salween and right across the valley from ridge to ridge. (*Oates.*) Breeds in February and March. Eggs vary in number from 2 to 5, and are like those of its congeners, pure white.

THE  
**FAUNA OF BRITISH**  
AND ITS DEPENDENCIES.

A SYSTEMATIC ACCOUNT,  
WITH DESCRIPTIONS OF ALL THE KNOWN  
SPECIES OF BIRDS INHABITING BRITISH INDIA,  
OBSERVATIONS ON THEIR HABITS, NIDIFICATION, &c.  
TABLES OF THEIR GEOGRAPHICAL  
DISTRIBUTION IN PERSIA, BELOOCHISTAN,  
AFGHANISTAN, SIND, PUNJAB, N. W. PROVINCES,  
AND THE PENINSULA OF INDIA GENERALLY,

WITH  
WOODCUTS, LITHOGRAPHS, AND COLOURED ILLUSTRATIONS.

BY

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KURRACHEE TO KANDAHAR;" "THE VERTEBRATE ZOOLOGY OF SIND;"  
"THE REPTILES OF SIND;" "THE EDIBLE AND GAME BIRDS OF  
BRITISH INDIA, WITH ITS DEPENDENCIES AND CEYLON," &c.



**VOLUME II.**

LONDON:—**TRÜBNER & Co., LUDGATE HILL.**  
BOMBAY:—**EDUCATION SOCIETY'S PRESS, BYCULLA.**

1890.



# P R E F A C E.

IT is not without some degree of gratification that this work on the Avian inhabitants of British India and its Dependencies is now brought to a close. It has occupied fully three and a half years of incessant labour and research, which, considering that there were as many as 1,460 species to examine and describe, and that the literature of this number had to be referred to with regard to their habits, nesting, distribution, and synonymy, &c., is not long. It is however some satisfaction to find my subscribers and correspondents so impatient for its completion; a proof of its utility as a Thesaurus with special reference to the Ornis of the British Indian Empire. There has not been any unnecessary delay in issuing the several parts, but the difficulties to be contended with in treating the subject systematically as well as in some degree popularly, and the time which would be involved in obtaining specimens of certain doubtful species or sub-species from various correspondents in different parts of India was not calculated, nor was there, at the outset, the faintest thought, that during the publication, I would lose the valuable assistance of several contributors of note, as well as supporters of the work, who either died or left for England, but whose reputation in Ornithology have been long ago recorded in the annals of Natural History. By such loss, the distribution table, so far as Northern India is concerned, is not as complete as it should otherwise have been.

In the first volume, part of the first great division of the Avifauna of British India was treated of—*viz.*, the carnivorous and rapacious kinds, which by the aid of their piercing sight and some by their developed sense of smell discover their prey from immeasurable heights. Several groups of Passeriforme birds were also dealt with. In the present volume, which is more than double the size of the first, the remaining divisions are treated of, beginning with some of the Turdidæ and Timelidæ, or birds which though ordinarily less noticed, are nevertheless of much service in the economy of nature, in keeping down the myriads of insects which infest the earth and atmosphere. The total number of species as now ascertained and dealt with in this work is 1,460, or 452 in excess of the number described by the late Dr. Jerdon in his “Birds of India.” The distribution in India of this number, so far as it has been possible to collate information, is shown in the following table :—

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It will be seen from the distribution table that it is chiefly the migrant forms which are more generally distributed, as the Motacillidæ, Emberizidæ and the waders and swimmers, and naturally, following in their wake, the rapacious species. Assimilation of climatic conditions as affecting this distribution may be easily judged from the number of species occurring in each of the countries above named, while the number

occurring in Beloochistan and Persia must only be calculated as being generally a diffusion of species along the coast line during winter. It is much to be regretted that statistics of the occurrence of species in Cashmere are wanting, and that Nepaul has been only partially worked up. In course of time, when the British Museum authorities have completed their catalogue of Mr. Allan Hume's valuable contribution to the National collection, we may learn more of the distribution of species in those regions, as well as of the distance of their migration.

In the Introduction (Vol. I.) mention has been made of the authors from whose works information has been collated, and in many instances original descriptions also. Here I must now refer to the illustrations. In the first place, for many reasons, they are not as numerous as was at first contemplated, but of the manner in which the majority have been done, I can speak with perfect satisfaction. Of the full page plates, some are original, and others have been taken from either the Zoological Society's Journal, The Ibis, Blanford's Zoology of Persia, my work on the Vertebrate Zoology of Sind, and from the British Museum Catalogues. The coloured plates have been done by Mintern Brothers, and the manner in which these have been finished reflects much credit on the firm.

It now remains for me to mention the names of those Naturalist-Collectors who have very kindly assisted me in making the work full of more recent information, especially in regard to the distribution of species and nidification. Mr. Mahon Daly of the Shevaroy Hills has been good enough to send information and specimens from the locality he worked in; Mr. P. W. MacKinnon of Mussoorie also, as well as Mr. Charles Wilkinson of Darjeeling, Mr. Beckwith in the Sikkim



Terai, and Messrs H. Parker and F. B. Armstrong of Ceylon. Mr. A. G. Cardew of Ootacamund also very kindly sent copious notes, also Mr. C. Wyeth of Tavoy. To this list must be added the name of Mr. J. A. Cave-Browne, of Rangomati, to whom both myself and all subscribers to this work are indebted for the English Index which was very kindly compiled by him. Mr. H. M. Phipson very kindly placed at my disposal such works of reference as he possessed, and for similar obligations I am indebted to Mr. Charles Taylor, to whom, as Superintendent of the Press, is also due the neatness and general out-turn of this work.

JAMES A. MURRAY.

*Ripon Road, Byculla, Bombay,*  
*1st February 1890.*

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Fig 1 *æthopygia nepalensis*  
" 2 & 3. " *schenæ*.

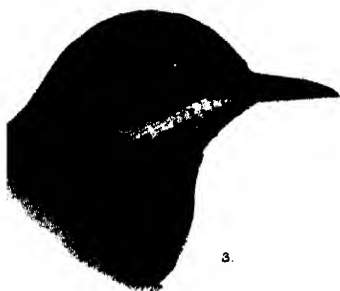




*Cinnerys Mirum.*







Figs 1 & 2. *Motacilla hodgsoni*.  
 " 3 & 4 " *borealis*  
 " 5 & 6 " *Gnereicapilla*.



## Family, ARTAMIDÆ.—SWALLOW SHRIKES.

Bill moderate, wide at base, deep and slightly curved; commissure slightly curved; nostrils basal, with a minute tuft of bristles at their base; tarsus short and strong; claws well curved, acute; wings long; 1st quill minute, 2nd longest; tail short. (*Jerd.*) Plumage grey. They are called Swallow Shrikes, owing to their feeding like the swallows in the air.

### Gen. *Artamus*—*Vieill.*

Characters those of the Family.

**165a. *Artamus fuscus*, Vieill., *Nouv. Dict. d'Hist. Nat.* xvii. p. 297; *Jerd.*, *B. Ind.* i. p. 441, No. 287; *Hume*, *Nests and Eggs*, *Ind. B.* p. 194; *Blyth*, *B. Burm.* p. 127; *Hume*, *Str. F.* iii. p. 102; *Armstrong*, *Str. F.* iv. p. 321; *Dav. et Oust.* *Ois. Chine*, p. 101; *Cripps*, *Str. F.* vii. p. 273; *Sharpe in Rowley's Orn. Misc.* iii. p. 191; *Legge*, *B. Ceylon*, p. 666; *Hume*, *Str. F.* viii. p. 92; *Oates*, *Str. F.* x. p. 203; *id.*, *B. Br. Burm.* i. p. 396.—The ASHY SWALLOW SHRIKE.**

Lores black; head and neck ashy grey, also the back, scapulars, rump and shorter upper tail coverts, but these with a rufescent or vinous tinge; longer upper tail coverts white; tail dark grey, tipped with whitish; wings and their coverts deep grey; quills narrowly margined with white near the tips and on portions of the inner webs; breast, abdomen, under wing and under tail coverts pale purplish brown, the latter finely barred with ashy. Bill pale blue, darker at the tip; legs slaty; irides dark brown.

*Length*.—7 to 7·3 inches; wing 5·2; tail 2·5; tarsus 0·65; bill from gape 0·95.

The young are barred above, the quills are broadly margined with whitish, and the under wing coverts tipped with rufous.

*Hab.*—Throughout nearly the whole of the moist regions in India and Ceylon. Jerdon says it is more abundant in the wooded districts, especially where palm trees abound, more particularly the Palmyra palm. He found them most abundant in the Carnatic, the Malabar Coast, the Northern Circars and Bengal; rare in the Deccan and Central India. Occurs also at Darjeeling, spread throughout Assam, British Burmah and Ceylon. It has been found at Arracan, Tenasserim and Pegu in large flocks. The nests are built on palm trees, and are made of grass, twigs and fibres. Eggs, 4 in number, whitish, marked at the larger end with yellowish brown and lilac.

*Artamus leucorhynchus*, a species with the rump and lower surface of the body white and the back and wings chocolate brown, is found in the Andamans.



SINCE the publication of the 2nd part of the 1st Volume of this work, the following species of *Digenea* has been described by Mr. Sharpe of the British Museum :—

**269a. *Digenea leucops*, P. Z. S. 1888, pt. ii., p. 246 :—**

General colour above light olive brown, with somewhat of an ashy tinge ; wing coverts like the back, the greater series somewhat more ruddy brown externally ; bastard wing, primary coverts and quills dusky brown, externally ruddy olive ; upper tail coverts rather more reddish brown than the back ; tail feathers dusky brown, externally reddish brown ; crown of the head like the back ; a white line across the base of the forehead widening into a large supra-loral spot ; feathers about the eye washed with ashy grey ; lores ashy, as also the feathers round the eye ; ear coverts and cheek ashy washed with olive ; throat white ; the chin and a broad band on each side of the throat black, continued downwards, and forming a collar on the foreneck ; chest and breast pale ashy, with a slight tinge of olive brown ; abdomen white ; sides of body and flanks olive brown ; thighs olive brown ; under tail coverts white, also the under wing coverts and axillaries. “Bill slaty brown ; feet white tinged fleshy ; iris bright dark brown.” (*R. G. Wardlaw-Ramsay*.)

*Length*.—4·3 inches ; wing 2·5 ; tail 1·75 ; tarsus 0·8 ; culmen 0·45.

*Hab*.—Shillong and Karenne, B. B.

An allied species (*D. malayana*) is also described from Perak.



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**ORDER, GEMITORES—PIGEONS AND DOVES.**

Bill short, straight, compressed, front half of mandible vaulted and curved at the tip, the base with a soft fleshy membrane, in which are the nostrils; wings moderate or long; tail variable, of 12, 14, or 16 feathers, even or rounded; tarsi strong. Habits monogamous. Both sexes assist in making the nest, incubating the eggs, and feeding the young. Nests loosely constructed of twigs, straw, and almost any material which could be readily got and built on trees, roof of buildings or ledges and holes in rocks; eggs two in number, white. They feed on fruit and grain, and in feeding the young disgorge the food from their craw.

**Family, TRERONIDÆ—FRUIT PIGEONS.**

Bill variable, short, thick, or slender; tip vaulted; tail of 14 feathers; tarsi more or less feathered, the bare portion reticulated.

**Gen. Treron.—Vieill.**

Bill strong and deep; eyes surrounded by a nude space.

**1140. *Treron nipalensis*** (*Hodgs.*), *Ferd.*, *B. Ind.* ii. p. 445, No. 771; *Hume, Str. F.* iii. p. 160; *Blyth and Wald.*, *B. Burm.* p. 163; *Hume and Dav.*, *Str. F.* vi. p. 410; *Hume, Str. F.* viii. p. 109; *Bingham, Str. F.* ix. p. 193; *Oates, Str. F.* x. 235; *id.*, *B. Br. Burm.* ii. p. 306.—**THE THICK-BILLED GREEN PIGEON.**

Head and nape ashy, paler on the crown and tinged with greenish on the nape; rest of the plumage bright green, except the back, scapulars, and most of the wing coverts, which are maroon; other coverts and tertiaries green, the median series broadly edged with yellow; greater coverts blackish, edged with yellow; primaries and their coverts black, the latter narrowly edged with white; secondaries black, edged externally with yellow; central feathers of the tail green, the next pair greenish with ashy tips, the rest of tail feathers ashy, tinged with green on the outer webs, and with a black bar across; under tail coverts cinnamon brown. The *female* differs in wanting the ashy head and maroon mantle. Bill red at base; the culmen yellowish; corneous portion bluish white; eyelids greenish blue; irides blue; legs bright red; corneous portion of bill extending to the forehead.

*Length.*—10·5 to 10·8 inches; tail 3·5; wing 5·5 to 5·7; tarsus 0·9; bill from gape 0·95.

*Hab.*—The hill tracts of Eastern Bengal and S.-E. Himalayas, the hilly, parts of Burmah, extending down the Malay Peninsula to Sumatra; also Siam and Cochin-China. Found in flocks; feeds on fruits. Breeds in March. Eggs 2, pure white.

Gen. **Crocopus**.—*Bonap.*

Characters those of the Sub-Family; basal portion of bill with the fleshy protuberance occupying one-half its length or nearly as much; third primary sinuated on its inner web.

**1141. *Crocopus phœnicopterus* (Lath.), *Jerd.*, *B. Ind.* ii. p. 447, No. 772; *Hume*, *Str. F.* ii. p. 423. *Crocopus Hardwickii*, *Gould*, *Cent. Him. B.* pl. 58.—The BENGAL GREEN PIGEON.**

Top of head and demicollar ashy grey; back of the neck yellowish green; forehead tinged with greenish; wing coverts lilac, the greater series margined yellow, forming an oblique bar across the wing; tail ashy grey above, and for the terminal two-fifths tinged with green; middle portion blackish; neck in front and breast bright yellow green; middle of abdomen ashy grey; vent white and green; lower abdomen bright yellowish green; under tail coverts dull maroon, and with white tips; bill whitish; feet yellow; irides carmine; eyelids smalt blue.

*Length*.—12·5 inches; tail 5; wing 7·5; bill at gape 0·9.

*Hab.*—Bengal and Upper India, extending to Assam, Sylhet and Tipperah. Found in the Eastern portions of Rajpootana, the Punjab, Central and N.-W. Provinces and Oudh; also in Central India. Breeds from March to June, in trees. Eggs two in number, of an oval shape, white and glossy, varying in length from 1·16 to 1·35 inch, and in breadth from 0·9 to 1 inch.

**1142. *Crocopus chlorigaster*, *Blyth*, *J. A. S. B.* xvii. p. 167; *Jerd.*, iii. p. 448, No. 773; *Str. F.* ii. p. 423; *Murray*, *Hdbk.*, *Zool. &c.*, *Sind*, p. 193; *Tem. Pig.* t. 2. *C. jerdoni*, *Strickl.*—The SOUTHERN GREEN PIGEON.**

Forehead, crown and nape ashy grey, as also are the lores, sides of the face and ear coverts; neck behind yellowish green, followed on the upper back by a narrow band of ashy grey; back, scapulars, rump and upper tail coverts green, slightly tinged with yellowish on the scapulars; primaries dusky brown, margined on their outer web with pale yellow; the wing coverts broadly margined with the same colour, forming an oblique wing bar; shoulder of wing lilac; tail above greenish at base and ashy grey for the terminal half; under tail coverts dull maroon, the feathers broadly tipped with white; chin and throat greenish yellow; neck in front, breast and abdomen bright yellow, tinged greenish on the flanks; vent mixed green and white; bill whitish; legs and feet yellow; irides carmine.

*Length*.—11·75 to 12·5 inches; wing 7; tail 5; bill at front 0·75.

*Hab.*—Nearly throughout the Peninsula of India and Ceylon (*Jerd.*), Malabar Coast, Madras and Southern India generally; Lower Bengal, Oudh, Central Provinces, Khandeish, the Deccan, Sind, and North Guzerat. Rare in Sind,

and has only been found on the frontier, at Jacobabad. Breeds from March to June, nesting on trees. Eggs two in number, pure white and glossy, 1.12 to 1.3 a length by .09 to 1.0 in breadth.

**1143. *Crocopus viridifrons* (Blyth), Hume, Str. F. iii. p. 161; Blyth, B. Burm. p. 143; Oates, Str. F. v. p. 163; Anders., Yunnan Exped. p. 664; Hume and Dav., Str. F. vi. p. 410; Hume, Str. F. viii. p. 109; Bingham, Str. F. ix. p. 194; Oates, Str. F. x. p. 235; id., B. Br. Burm. ii. p. 307.**—The YELLOW-FRONTED GREEN PIGEON.

Lores, forehead, cheeks, throat, breast, sides and back of the neck and thighs deep yellow; ear coverts, crown, nape, and a band across the nape ashy; also the abdomen, sides of the body and under wing coverts; vent mixed yellow and ashy; under tail coverts maroon, tipped with white; back, scapulars, tertiaries, rump and lesser wing coverts dull green, a patch of lilac near the bend of the wing; winglet and primary coverts dark brown: quills dark brown, edged with yellow; greater coverts dark brown, broadly edged with yellow; basal half of tail greenish yellow; terminal half of tail and upper tail coverts ashy. (Oates.) Irides blue, the outer circle pink; eyelids plumbeous; legs orange yellow.

*Length.*—12.5 to 12.8 inches; tail 4.7; wing 7.5; tarsus 1.1; bill from gape 1.

*Hab.*—British Burmah, where it is said to be extremely common, and spread over the whole Province alike in the hills and plains. It extends through the Indo-Burmese countries to Cachar, and eastwards to Cochin-China. Breeds in April. Nest placed in low trees. Eggs white, two in number.

### *Gen. Osmotreron—Bonap.*

General characters as in *Crocopus*; bill more slender; legs red; sexes differ much in plumage.

**1144. *Osmotreron bicineta*, Ferd., B. Ind. ii. p. 449; Hume, Nests and Eggs Ind. B. p. 493; Blyth and Wald., B. Burm. p. 144; Armstrong, Str. F. iv. p. 337; Oates, Str. F. vi. p. 163; Hume and Dav., Str. F. vi. p. 411; Hume, Str. F. viii. p. 109; Legge, B. Ceylon p. 725; Oates, Str. F. x. p. 235; id., B. Br. Burm. ii. p. 308.**—The ORANGE-BREASTED GREEN PIGEON.

Upper surface of the body, including the lesser wing coverts, tertiaries and greater wing coverts green, the two latter broadly edged on the external web with yellow; winglet, primaries, and the primary coverts black; secondaries also black, narrowly margined with yellow; occipital region, nape, hind neck, under wing coverts, axillaries, sides of the body, and central tail feathers ashy; other tail feathers dark ashy, all tipped with greyish white; forehead, front of crown, sides of the head and neck, chin, throat, abdomen, and vent yellowish green; flanks yellow, streaked with dark green; breast orange, separated from

the neck by a lilac band across, forming a collar; under tail coverts cinnamon. The *female* has not the lilac and orange breast, and the under tail coverts are pale ashy white, dashed with dull greenish; bill glaucous green; legs pinkish red; irides blue, with an outer circle of red.

*Length*.—12 inches; tail 4·2; wing 6·3; tarsus 0·8; bill from gape 1.

*Hab*.—The more moist and wooded portions of India and Ceylon, and also in the greater part of British Burmah. Extends to Assam, Cachar, and countries to the eastward. Recorded from Lower Bengal and the coasts east and west of India. Occurs abundantly in Nepaul, Sylhet, Tipperah, and Arrakan; also the Sub-Himalayan terais of Behar and Oudh, and the Eastern forest regions of the Central Provinces. Breeds in the Nepaul terai from April to June, making a nest generally on the outer branch of a tree. Eggs two in number, oval, and pure white.

**1145. *Osmotreron vernans* (Linn.),** *Wald. Trans. Zool. Soc.* viii. p. 81; *Hume and Dav., Str. F.* vi. p. 411; *Hume, Str. F.* viii. p. 109; *Kelham, Ibis*, 1881, p. 526; *Oates, B. Br. Burm.* ii. p. 309. *Columba vernans*, *Linn., Mantissa Plant.* p. 526. *Columba viridis*, *Scop., Del. Flor. et Faun. Insub.* ii. p. 94. *Osmotreron viridis*, *Hume, Str. F.* i. p. 460. *Treron vernans*, *Salvad., Ucc. Born.* p. 286. —THE PINK-NECKED GREEN PIGEON.

Forehead, crown, sides of the head, chin, throat, and sides of the body ashy; nape, hind neck, sides of the neck and breast vinaceous pink; lower breast orange; back, rump, scapulars, tertiaries and wing coverts green, the outer, median and greater coverts and some of the tertiaries margined with yellow; quills blackish, very narrowly margined with yellow; upper tail coverts rufescent; abdomen greenish yellow; vent and flanks mixed green and yellow; under tail coverts deep chestnut; tail ashy, with a broad subterminal blackish band, and tipped with paler ashy. The *female* has not the vinaceous pink breast; and the whole head, neck, and breast are green; under tail coverts yellowish white, marked with cinnamon and dull ashy green; legs and feet carnation pink; bill pale plumbeous; cere dirty yellowish; irides Prussian blue, with pink and buff outer circles.

*Length*.—11 inches; tail 4; wing 5·7; tarsus 0·8, bill from gape 0·85.

*Hab*.—Southern Tenasserim, extending down the Malay Peninsula and eastwards to Cochin-China. Found also in Sumatra, Java, Borneo, Celebes, and the Phillipine Islands. Breeds in the Malay Peninsula during March on bushes in swampy places.

**1146. *Osmotreron malabarica*, *Ferd., Ill. Ind. Orn.* pl. 31; *id., B. Ind.* ii. p. 450; *Hume, Nests and Eggs Ind. B.* p. 493; *Hume, Str. F.* iii. p. 162; *id., Str. F.* iv. p. 261; vi. p. 414.**—THE GREY-FRONTED OR MALABAR GREEN PIGEON.

Forehead greyish white; mantle and wing coverts maroon; rest of upper parts, including the lores, face and ear coverts green; wing coverts broadly  
in

edged with bright yellow; quills the same, but narrow; tail green, with a broad medial dark band and broadly tipped with ashy white; under surface of the body green; throat and neck yellowish; vent and thigh coverts mixed green and pale yellow; under tail coverts cinnamon. The *female* has not the maroon patch; bill glaucous green; legs and feet pinkish red; irides red, with an outer blue circle.

*Length*.—10·2 to 10·5 inches; tail 4; wing 5·75. No nude space round the eye.

*Hab*.—Wooded and hilly tracts of the Indian Peninsula; abundant in Malabar and South India, also in Central India and the Eastern ghauts. It is also found in Mysore and South Wynaad, as well as in the Assamboo hills.

Breeds during April. Eggs pure white, and Hume says, thickly studded with minute pores.

**1147. *Osmotreron Phayrii*.** *Blyth, J. A. S. B.* xxxi. p. 344; *Jerd., B. Ind.* ii. p. 451, No. 776; *Hume, Str. F.* iii. p. 162; *Blyth, B. Burm.* p. 144; *Hume and Dav., Str. F.* vi. p. 412; *Hume, Str. F.* viii. p. 109; *Bingham, Str. F.* ix. p. 194; *Oates, Str. F.* x. p. 235; *Oates, Br. Burm.* ii. p. 310.—PHAYRE'S GREEN PIGEON.

Very like *Osmotreron malabarica*, differing only in having the entire cap ashy in both sexes; breast greenish, tinged with orange. The *female* has not the orange breast, and the maroon of the male is replaced by green; the under tail coverts are mixed green, ashy and white; bill bluish; legs lake red; irides blue, with an outer pink circle.

*Length*.—11 to 11·5 inches; tail 4; wing 6·3; tarsus 0·9; bill from gape 1.

*Hab*.—Lower Bengal, Assam, Sylhet, and Burmah, where it occurs in all the hilly tracts of the province, as far as Tavoy, and extends to the east as far as Cochin-China.

**1148. *Osmotreron fulvicollis*** (Wagler), *Hume and Dav., Str. F.* vi. p. 413; *Hume, Str. F.* viii. p. 109; *Oates, B. Br. Burm.* ii. p. 311. *Columba fulvicollis*, *Wagl., Syst. Av. Columba*, No. 8; *Wald., Trans. Zool. Soc.* ix. p. 213. *Treron fulvicollis*, *Salvad., Ucc. Born.*, p. 288.—THE RUDDY GREEN PIGEON.

Entire head, neck and upper breast ruddy vinaceous, paling on the lower breast; abdomen green; vent and flanks ashy green and yellow; thighs bright yellow; rump ashy green; sides of the body greyish white; under tail coverts cinnamon; back, scapulars and lesser wing coverts maroon; upper tail coverts and central tail feathers dull green; others green at base with a subterminal dark band and tipped with pale ashy. Legs and feet purplish pink; bill deep red; irides buffy pink; orbital skin plumbeous green.

*Length*.—10·5 inches; tail 3·5; wing 5·5; tarsus 0·8; bill from gape 0·8.

*Hab.*—Tenasserim, in the extreme south, extending down the Malay Peninsula, and occurring in Sumatra, Borneo, and the Philippines.

**1149. *Osmotreron pompadoura* (Gmel.), *Jerd.*, *B. Ind.* iii. p. 452, No. 777; *Hume, Str. F.* iii. p. 162; vi. p. 414. *Osmotreron flavogularis*, *Blyth, J. A. S. B.* xxvi. p. 225.—The YELLOW-FRONTED GREEN PIGEON.**

Like *Osmotreron malabarica*; differs in having a yellowish forehead, pure yellow throat, no buff patch on the breast, and the under tail coverts are green in both sexes, with broad whitish tips; bill glaucous green; irides red, with an outer blue circle.

*Length.*—10·5 inches; tail 4; wing 5·75.

*Hab.*—South India.

*Osmotreron chloroptera* is said to occur in the Andamans and Nicobar Islands.

#### Gen. *Sphenocercus*.—Gray.

Bill moderately slender and lengthened, the basal two-thirds soft and tumid; corneous extremity feeble; a small wide space round the eyes; third primary not sinuated; tail with the central feathers much elongated and narrow; soles of feet slender.

**1150. *Sphenocercus sphenurus* (Vigors), *Jerd.*, *B. Ind.* ii. p. 453; *Hume, Nests and Eggs Ind. B.* p. 494; *id.*, *Str. F.* iii. p. 163; *Wald. in Blyth's B. Burm.* p. 144; *Hume and Dav.*, *Str. F.* vi. p. 415; *Hume, Str. F.* vii. p. 109; *Scully, Str. F.* viii. p. 339; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 304. *Vinago sphenurus*, *Vigors, P. Z. S.*, 1831, p. 173.—The WEDGE-TAILED GREEN PIGEON OF THE KOKLA.**

Plumage green, with a ruddy tinge on the head and breast; shoulder of wing and mantle maroon; wing coverts, tertiaries, back, rump and upper tail coverts dark dull green; upper back slaty green; quills dusky or dark brown; tail green, the outer feathers slate colour, and with a dark subterminal band; greater wing coverts and secondaries narrowly margined with yellow; under surface of the body green; part of the throat, and entire breast suffused with orange buff; vent and under tail coverts pale cinnamon. The *female* has not the orange buff colour on the breast, and the under tail coverts are mixed white and green; bill glaucous blue, albescent at the tip; irides blue, with an outer circle of red; orbital skin pale blue; legs coral red.

*Length.*—13 inches; tail 5·5; wing 7; bill at front 0·75.

*Hab.*—Himalayas, extending into Assam and Sylhet, ascending as high as from 4,000 to 8,000 feet. Found also in Pegu. Jerdon says it is common at Darjeeling, and that at Mussoorie they leave in October and return to breed in April. Nest made on trees, composed of twigs. Eggs two in number, pure white.

**1151. *Sphenocercus apicaudus* (Hodgs.), *Jerd., B. Ind.* iii. p. 454; *Wald. in Blyth's B. Burm.* p. 144; *Hume and Dav., Str. F.* vi. p. 415; *Hume, Str. F.* viii. p. 109. *Treron apicauda*, *Hodgs., J. A. S. B.* xiv. p. 854.—The PIN-TAILED GREEN PIGEON.**

Plumage green; crown of the head with a yellowish tinge; upper tail coverts and under surface of the body tinged with yellowish; primaries slate colour; wing with two narrow conspicuous yellow bars; breast tinged with russet; tail with the medial pair of feathers much elongated beyond the rest, green at the base and pale grey at the tips; the others grey with a medial dark bar. Bill glaucous blue; legs coral red; irides dark yellow.

*Length*.—15·5 to 16 inches; tail 6·5, to end of central pair 8·0; wing 6·5; tarsus 0·9; bill from gape 1.

*Hab.*—S.-E. Himalayas, in Nepaul and Sikkim; also British Burmah, in Tenasserim, extending to the hill ranges of Eastern Bengal and Assam. Habits not unlike other pigeons. Jerdon says its not unlike the last species, but its *coo* is less loud, musical and prolonged.

### Sub-Family CARPOPHAGINÆ.—FRUIT PIGEONS.

Bill longer than in *Treronina*, more slender and depressed at the base; the terminal third corneous; wings long; tail even or rounded, longer than in the *Treronina*; feet with broad soles; tarsus short and well feathered; under mandible feathered to nearly the tip. Breeds at high altitudes, and lays but one egg.

### Gen. *Carpophaga*.—*Selby*.

General characters of the sub-family; plumage above glossy metallic green or coppery brown.

**1152. *Carpophaga ænea* (Linn.), *Hume, Nests and Eggs Ind. B.* p. 496; *id., Str. F.* ii. p. 260; iii. p. 163; *Blyth, B. Burm.* p. 144; *Wald., Trans. Zool. Soc.* ix. p. 215; *Armstrong, Str. F.* iv. p. 337; *Inglis, Str. F.* v. p. 39; *Hume and Dav., Str. F.* vi. p. 416; *Hume, Str. F.* viii. p. 109; *Legge, B. Ceylon* p. 718; *Bingham, Str. F.* ix. p. 194; *Parker, Str. F.* ix. p. 481; *Oates, B. Br. Burm.* ii. p. 301. *Columba ænea*, *Linn., Syst. Nat.* i. p. 283. *Columba sylvatica*, *Tick., J. A. S. B.* iii. p. 581. *Carpophaga sylvatica* (*Tick.*), *Jerd., B. Ind.* ii. p. 455, No. 780.—The IMPERIAL GREEN PIGEON.**

Whole head and neck and entire under parts pearl grey, tinged with ruddy vinaceous; under tail coverts deep maroon; orbital feathers, base of bill and chin whitish; back, rump, upper tail coverts, tertiaries, upper wing coverts and tail shining coppery green; axillaries buff; primaries and secondaries greenish brown, tinged with ashy on the outer webs. Bill greyish, the base dull red; eyelids, legs, and feet lake red.



*Length*.—17 inches; tail 6·5; wing 9; tarsus 1·1; bill from gape 1·5.

*Hab.*—The whole of India, from Ceylon to Assam and Sylhet, except the North-West Provinces and the Himalayas. It is also found in Burmah, and extends through the Malay Peninsula to Sumatra and Java. Affects forests and well-wooded parts of the country. Abundant in the Malabar forests, in Central and Southern India, Midnapore and the countries to the north-east generally. Breeds in the Andamans and in Tenasserim; also in the forests of Central India, laying only a single egg in a nest made of twigs in thickets and bamboo bushes. March and April are the months in which it breeds.

**1153. *Carpophaga insignis* (Hodgs.), *Jerd.*, *B. Ind.* ii. p. 457, No. 781; *Hume, Nests and Eggs Ind. B.* p. 496; *id.*, *Str. F.* iii. p. 328.—The BRONZE-BACKED IMPERIAL PIGEON.**

Whole head, neck and under parts pale lilac grey; back and wings vinaceous brown with a faint coppery gloss; rump and upper tail coverts dusky cinereous; tail dusky with its terminal fourth dull ashy, the tip beneath whitish grey; chin white; under tail coverts buffy white; bill dull lake red at base, slaty at tip; orbits lake red; irides red-brown and hoary grey; legs dull lake red.

*Length*.—18 to 20 inches; tail 6·8 to 7; wing 9·5; tarsus 1; bill from gape 1·4. (*Jerd.*)

*Hab.*—S.-E. Himalayas; also the Khasia hills, Sikkim and Arrakan. Jerdon adds that it is found in the mountain regions of Malabar, in Coorg, the Wynaad, and the Western slopes of the Neilgherries. Associates in small parties or in pairs, frequenting the loftiest trees and feeding on various fruits. According to Hodgson it breeds in Nepal from May to July, laying a single white egg.

**1154. *Carpophaga griseicapilla* (Wald.), *Dav.*, *Str. F.* v. p. 460; *Hume and Dav.*, *Str. F.* vi. p. 418; *Hume, Str. F.* viii. p. 109; *Oates, B. Br. Burm.* ii. p. 302. *Ducula griseicapilla*, *Wald.*, *Ann. Nat. Hist. Ser.* iv. xvi, p. 228; *id.*, *Ibis*, 1875, p. 459; *Hume, Str. F.* iii. p. 402; *Wardlaw-Ramsay, Ibis*, 1877, p. 467. *Carpophaga insignis*, *apud. Bl. B. Burm.* p. 144.—The GREY-HEADED IMPERIAL PIGEON.**

Forehead, crown, nape, cheeks and ear coverts pure French grey; back of neck vinous; interscapular region brown, with a vinous tinge; wing coverts brown like the back, but not so strongly tinged with vinous; quills dark brown; uropygium and upper tail coverts dark ash; rectrices above dark brown, with a broad grey terminal band; lower surface of rectrices pale grey; chin and throat pure white; remainder of lower surface pale grey, the breast being tinged with lilac; under tail coverts pale cream colour (*Walden*, ex *Oates*); legs and feet deep lake pink; bill the same but the corneous portion pale whitish brown; irides pearly grey. (*Davison*.)

*Length*.—18·5 inches; tail 8; wing 9·5; tarsus 1·1; bill from gape 1·6.

*Hab.*—British Burmah on the Karen hills, east of Tounghoo, at from 4,000 to 4,200 feet elevation, also the Mooleyit mountain. Breeds in January.

**1155. *Carpophaga bicolor* (Scop.),** *Ball, Str. F.* i. p. 79; *Hume, Nests and Eggs Ind. B.* p. 496; *id., Str. F.* ii. p. 264; *Salvad., Ucc. Born.* p. 292; *Blyth, B. Burm.* p. 145; *Hume and Dav., Str. F.* vi. p. 418; *Hume, Str. F.* viii. p. 109. *Columba bicolor*, *Scop., Del. Flor. et Faun. Insub.* ii. p. 94. *Myristivora tricolor*, *Wald., Trans. Zool. Soc.* ix. p. 217.—The RED IMPERIAL PIGEON.

Winglet, primaries and secondaries black; terminal portion of tail black, the black occupying about half the feather on the centrals, decreasing in extent towards the outer feathers, and on the outermost pair, occupying merely a small portion of the tip and the outer web; remainder of the plumage white, with a creamy or yellow tinge (*Oates*); legs and feet pale smalt blue; bill leaden blue; tip darkish horny or dark plumbeous; irides dark brown. (*Davison.*)

*Length.*—16 inches; tail 5; wing 9; tarsus 1'2; bill from gape 1'3.

*Hab.*—Mergui Archipelago, according to Blyth. Occurs in the Nicobars and probably also in the Andamans with *C. insularis*, a large species with darker plumage than *C. ænea*, and the under tail coverts dingy brown tinged with chestnut, and the tail blue black. *C. palumboides* also occurs in the Andamans; it is characterized by having blackish wings and tail, and dusky slaty blue plumage.

### Family—COLUMBIDÆ.—*Bp.*—PIGEONS AND DOVES.

Bill horny at apex only; tail generally of 12 feathers only; tarsus lengthened; plumage sombre; feet more fitted for walking on the ground. Breeds in holes of rocks, buildings or wells.

### Sub-Family—PALUMBINÆ.—WOOD PIGEONS.

General characters of the family.

#### Gen. *Palumbus*.—*Linn.*

Characters those of the sub-family; the distinguishing feature is the patch on each side of the neck.

**1156. *Palumbus pulchricollis*,** *Hodgs., J. A. S. B.* xiv. p. 866; *Gould, B. Asia* pt. vi. pl. 13; *Ferd., B. Ind.* ii. p. 465, No. 785.—The DARJEELING WOOD PIGEON.

Above, general colour dusky grey; head, cheeks, and ear coverts light ashy; sides of the neck glossed with green and purple; neck patch black at base and with broad isabelline tips, followed by whitish at the extreme tip; tail blackish; under surface of the body pale vinous dove grey, albescent towards the vent and under tail coverts; throat whitish; breast glossed with green and purple. Bill livid at base, the tip yellow; irides yellow; legs dull red.

*Length*.—13·5 to 14 inches ; tail 4·75 to 5 ; wing 8·5 to 9.

*Hab.*—S.-E. Himalayas, in Nepaul and Sikkim. Not very common at Darjeeling.

**1157. *Palumbus casiotis*, Bonap.,  *Ic. Pig.* t. 58 ; *Yerdon, Birds of Ind.* iii. p. 464, No. 784 ; *Murray, Hdbk., Zool., &c., Sind*, p. 193.—The HIMALAYAN CUSHAT.**



*Palumbus casiotis.*

Head, lores, sides of the face, chin and throat bluish ashy ; nape, hind neck and sides of the neck glossed green and purple, the latter predominating on the upper back and sides of the breast ; neck patch on each side pure fulvous or yellowish clay ; scapulars and tertials dusky or hair brown, lighter on the latter ; breast dull lilac or ruddy vinaceous, paling on the upper abdomen to a vinous ash ; lower abdomen, vent and under tail coverts ashy white ; rump bluish ash ; primaries and their coverts dusky, nearly dark brown ; the primaries and some of their hindmost coverts margined with white on their exterior web ; secondaries bluish ash, the tips dusky ; wing coverts dark ashy ; the lower series white on their outer web, and forming a longitudinal patch ; winglet dark brown ; tail dark ashy grey at the base, followed by a broad light ashy grey band, and a broad black tip ; the under surface much darker, and the central band nearly white ; bill orange at the tip, whitish at the base ; legs red.

*Length*.—17 inches ; wing 10·25 to 10·5 ; tail 7.

*Hab.*—This, the largest of the pigeon tribe, is found in Nepaul, N.-W. Himalayas, Sind, Punjab, Persia, Beloochistan, and S. Afghanistan. Found in Sind on the frontier only, at Jacobabad. Breeds as far as has yet been ascertained only in the extreme N.-W. Himalayas, and Hume adds, perhaps also in the higher fir forests below the snow range in the Western Himalayas. They remain about Simla, Almorah and Mussoorie from November to April, and then are found in forests between the Jumna and the Ganges.

**1158. *Palumbus Elphinstonei* (Sykes), *Jerd.*, *B. Ind.* ii. p. 465, No. 786; *id.*, *Ill. Ind. Orn.* pl. 48; *Gould*, *B. Asia* pt. vi. pl. 12; *Hume*, *Str. F.* vii. pp. 95, 424. *Palumbus torringtoni* (Kelaart), *Blyth*, *Ibis*, 1867; *Hume*, *Str. F.* vii. p. 424.—The NEILGHERRY WOOD PIGEON.**

Head and neck ashy; nuchal patch black, with small *white tips*; back of neck and interscapulars cupreous ruddy, slightly glossed with greenish; rest of upper surface of body ruddy brown, dark ashy on the rump and upper tail coverts; wings, including the quills, dusky black, narrowly edged with ruddy cupreous; outer primaries pale edged; tail dull black; under surface of the body ashy, albescent on the throat; neck and breast glossed with green; vent and lower abdomen albescent; bill deep red, tipped with yellow; legs and feet dull red.

*Length*.—15 to 16 inches; tail 5.75 to 6; wing 8 to 8.25.

*Hab.*—The Neilgherries and the dense woods above the Khandalla ghauts in the Deccan. Breeds from March to July, laying only a single egg. Nests placed on high trees in dense woods. Egg spotless glossy white,  $1.46 \times 1.2$ .

#### Gen. *Palumbæna*.—*Bp.*

Bill straight, compressed, convex, bent at the tip; base of upper mandible covered with soft skin, more or less inflated, in which are the nostrils; hind toe on the same plane with the front ones; wings ample; 1st quill shorter than the second, which is the longest.

Feet fitted for walking, as well as for perching; habits and colouring intermediate to *Palumbus* and *Columba*. (*Jerd.*)

**1159. *Palumbæna Eversmanni*, *Bp.*, *Ik. Pig.* t. 61; *Jerd.*, *B. Ind.* iii. p. 467, No. 787; *Hume*, *Str. F.* i. p. 217; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 193.—The INDIAN STOCK PIGEON.**

Dark ashy, with a whitish grey rump; crown and breast tinged with vinaceous, two or three black spots on the wings, forming the rudiments of bands, and the end of the tail black; its outermost feather white for the basal two-thirds of its exterior web, or showing a black, and then a narrow grey band towards its tip; beneath the wings whitish, where it is dark ashy in the European bird. Bill yellowish translucent; legs with a yellowish tinge; skin round the eye yellow; irides buff.

*Length*.—11.5 inches; expanse 24; wing 8; tail 4. (*Jerdon*.) I have only a single specimen of this species from Shikarpoor, in Sind, and in a very unsatisfactory state for describing. *Jerdon* says this species is found in Western and Central India, and is probably migratory.

#### Gen. *Columba*.—*Linn.*

Characters same as those of *Palumbæna*.

**1160. *Columba intermedia*, *Strickl.*, *Ann. Nat. Hist. Ser.* 1. xiii. p. 39; *Jerd.*, *B. Ind.* ii. p. 469, No. 788; *Hume*, *Nests and Eggs Ind. B.* p**

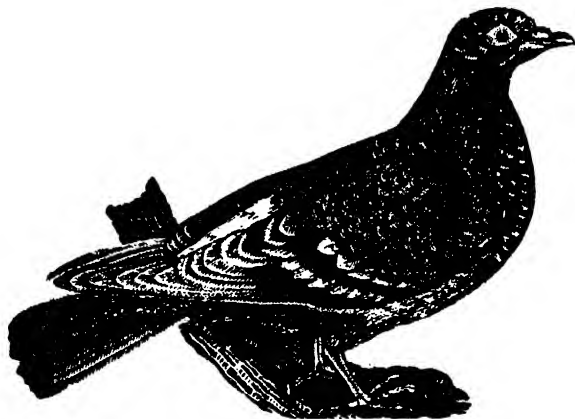
499; *David et. Oust. Ois. Chine*, p. 384; *Hume and Dav., Str. F.* vii. p. 449; *Hume, Str. F.* viii. p. 109; *Scully, Str. F.* viii. p. 339; *Legge, B. Ceylon* p. 698; *Blf., East Pers.* p. 268; *Murray, Vert. Zool. Sind*, p. 202. *Columbalivia*, *apud. Bl. B. Burm.*, p. 145.—The INDIAN BLUE ROCK PIGEON.

Head, nape, chin, abdomen, vent and upper and under tail coverts dark slaty grey; back, scapulars, secondaries, tertials, inner webs of primaries and rump pale ashy, paler on the rump; the outer webs of the primaries dusky grey, as are also their tips; secondaries broadly tipped dusky, the innermost tertials and greater wing coverts with a subterminal black patch on the outer web only, forming two black wing bands; neck all round and breast glossy, changeable green and amethystine, in varying lights; throat also slightly tinged with glossy green; under wing coverts white; tail like the upper tail coverts, or a little paler for two-thirds its length, then broadly black, with a very narrow terminal ashy tip; the basal two-thirds or more of the outer web of the outermost feather white. Bill black; cere whitish; irides dull orange; legs pinkish red.

*Length*.—12 to 13 inches; wing  $8\frac{3}{4}$  to 9; tail 5; bill at front 0.75.

*Hab.*—Throughout India to Ceylon, the Himalayas, Assam, Burmah, Persia, Beloochistan and Afghanistan in great abundance, congregating in large flocks. Breeds throughout India. Eggs 2 in number, white and glossy  $1.2 \times 1.25$ . Nesting in mosques, tombs, buildings, walls, and in holes in rocks, and caverns.

**1161. *Columbalivia***, *Bp., Ic.* t. 62; *Bodd., Pig. Pl. En.* 510; *Naum. vogt.* t. 150; *Tem. Pig.* t. 12; *Gould, B. Eur.* pl. 245; *Gray, Handlist Birds*, No. 9231; *Blf., East. Pers.* p. 268; *Hume, Str. F.* i. 218; vii. 296; *Murray, Hdbk. Zool., &c., Sind*, p. 193.—The ROCK DOVE.



*Columbalivia*.

Differs from *C. intermedia* in having a pure white instead of an ash coloured rump.

*Hab.*—S.-E. Europe, Sind, Beloochistan, S. Persia, S. Afghanistan, Arrakan, and some parts of Burmah. Breeds in December, laying, like *intermedia*, two white eggs.

**1162. *Columba rupestris*, Pall., *Zoogr. Rosso. As.* pl. 25; *Jerd., B. Ind.* iii. p. 470, No. 789. *Columba livia*, *apud Adams, B. Ind.*, No. 208.—The BLUE HILL PIGEON.**

Like *Columba intermedia*, but much paler in colour, the head and sides of the face being ashy grey instead of dark slaty grey; wing coverts and upper back light grey; middle of back white; upper tail coverts dark ashy grey; quills grey, black shafted and darker at the tips and on the outer webs; a patch of greyish black on the wing, forming two bands; tail dark grey at the base, broadly tipped with black and a subterminal broad white stripe; outer rectrices white, tipped with black; chin ashy grey; neck glossed with purple; upper breast glossed with green; bill black; cere grey; irides red.

*Length.*—12·7 inches; tail 5; wing 8.

*Hab.*—Kumaon and Mussoorie.

**1163. *Columba leuconota*, Vigors, *P. Z. S.* 1831, p. 331; Gould, *Cent. Him. B.* pl. 59; *Jerd., B. Ind.* iii. p. 471, No. 790; Hume, *Str. F.* iii. p. 256.—The WHITE-BELLIED or IMPERIAL ROCK PIGEON.**

Crown of the head and ear coverts blackish ash; neck behind white; interscapulars light brownish grey; rump white; wings light brownish grey, paler on the median coverts; primaries dull blackish near the tips, the secondaries broadly tipped with dusky; tertiaries and their coverts tipped greyish white, and forming 3—4 conspicuous bars; upper tail coverts and tail ashy black, with a broad greyish white curved band, the points of which reach the tips of the outer feathers, which are basally white externally; bill black; irides yellow; legs red.

*Length.*—13·5 to 14 inches; tail 5; wing 9·5.

*Hab.*—N.-W. Himalayas from 10,000 feet to snow level.

### Gen. *Alsocomus*.—*Tick.*

Bill small, much compressed; wings long, 2nd quill equal to 4th, the 3rd longest and sinuate on the outer web.

**1164. *Alsocomus puniceus*, Tickell, *J. A. S. B.* xi. p. 462; *B. Ind.* ii. p. 462, No. 782; Blyth, *B. Burm.* p. 145; Wardlaw-Ramsay, *Ibis*, *Jerd.*, 1877, p. 147; Hume and Davison, *Str. F.* vi. p. 418; Legge, *B. Ceylon*, p. 698; Hume, *Str. F.* viii. p. 109; Oates, *Str. F.* viii. p. 167; Bingham, *ibid.* p. 196; Oates, *Str. F. x.* p. 235; Oates, *B. Br. Burm.* ii. p. 289.—The PURPLE WOOD PIGEON.**

Whole plumage vinaceous ruddy, inclining to chestnut on the back and wings, the feathers more or less glossed with metallic green and amethystine,

especially on the neck; head greyish white; quills blackish, edged slightly with ashy; rump and upper tail coverts dark ashy; tail black; under tail coverts brown; bill livid at base, yellow at tip; legs and feet lake pink; irides orange; orbital skin purplish pink.

*Length*.—14·8 to 15 inches; tail 6; wing 8·5; tarsus 1; bill from gape 1·1.

*Hab*.—Tenasserim and Pegu, also in the Eastern portions of Central India, extending to near the sea coast in Midnapoor, and probably outwards towards Cuttack. It has been occasionally met with in Ceylon. To the east of the Bay of Bengal, in Assam, Arrakan, Singbhoon and Tenasserim it is more common. Oates says it is sparingly distributed over many parts of Pegu, and that it is more abundant near Kyakpadien than elsewhere. It has also been procured at Tounghoo. Tonka, where Hume records it from, appears to be the southernmost point of its distribution. Eggs similar to those of pigeons, and one in number only.

**1165. *Alsocomus Hodgsoni* (Vigors), *Jerd. B. Ind.* ii. p. 463, No 783. *Columba Hodgsoni*, *Vigors, P. Z. S.* 1832. *Dendrotreron Hodgsoni*, *Hume, Nests and Eggs Ind. B.* p. 497.—THE SPECKLED WOOD PIGEON.**

Above dark vinaceous ruddy, the median coverts speckled with white; rump and upper tail coverts dusky ash; tail ashy black; head and beneath the throat in front of the neck cinereous tinged with ruddy; nape vinous grey, the feathers minutely tipped with greyish white; wing coverts greyish; quills dusky brown, the first three primaries very narrowly margined externally with whitish, not however present in all specimens; under surface of the body vinous grey; the feathers of the neck, breast and upper abdomen mesially streaked with ruddy; lower abdomen dark vinous; flanks speckled with white; under tail coverts dusky ash; bill purplish black; irides hoary; orbital space livid; legs and feet blackish green in front, yellow behind.

*Length*.—15 inches; tail 6; wing 9 to 9·25; tarsus 1. The *female* has a duller tinge on the upper and lower parts.

*Hab*.—Himalayas to Nepaul, ranging in the latter to 10,000 feet. In Sikkim, Jerdon says, it keeps to the higher ranges only. It inhabits deep forests in the middle region of the Himalayas. It is not found on the outer range of hills in the North-West Himalayas, but is far from rare on the Tyne range and other mountains, in the interior, where Blyth was informed that it is tolerably common, frequenting the pine forests.

### Sub-Family—MACROPYGIINÆ.

Cuckoo doves with short feet, long and broad tails. The head too is small; wings rather short. Plumage ruddy brown.

Gen. **Macropygia**.—*Swains.*

Bill long and slender ; tail long, broad and much graduated ; legs and feet fitted for perching ; lateral toes somewhat unequal ; soles flat ; rump more or less spinous.

**1166. *Macropygia leptogrammica* (Temm.),** *Wald., Ibis*, 1875, p. 439 ; *Oates, B. Br. Burm.* ii. p. 295. *Columba leptogrammica*, *Temm., Pl. Col.* 560. *Coccyzura tusalia*, *Hodgs, J. A. S. B.* xii., p. 937. *Macropygia tusalia*, *Ferd., B. Ind.* ii. p. 473, No. 791 ; *Hume, Nests and Eggs Ind. B.* p. 500 ; *Wald., in Blyth's B. Burm.* p. 146 ; *Wardlaw-Ramsay, Ibis*, 1877, p. 468 ; *Hume and Dav., Str. F.* vi. p. 419 ; *Hume, Str. F.* viii. p. 110.—The BAR-TAILED CUCKOO DOVE.

Forehead buff, with a vinous tinge ; crown, nape and sides of the head vinaceous, glossed with changeable green and amethystine ; hind neck also glossed the same ; back, rump, upper tail coverts and scapulars, also tertiaries and wing coverts, dusky black, barred with numerous narrow deep rufous bars ; central tail feathers black, barred with rufous ; the next two pairs ashy at base and barred indistinctly with black and rufous at the end ; the outermost feathers ashy, with a broad subterminal black band ; outer web of the outermost feathers whitish ; quills dark brown ; chin and throat buff, with a vinous tinge ; breast and sides of the neck vinous brown, with purple and green reflections, each feather with a concealed black bar and lilac tip ; abdomen, vent and under tail coverts buff ; sides of the body tinged with ashy. The female has the breast and upper abdomen barred with brown and the colours are less bright ; bill horny brown ; legs and feet dull lake red ; irides brown, with an outer pink circle ; orbital skin pale livid.

*Length*.—15 to 16 inches ; tail 7·5 ; wing 7·2 ; tarsus 0·9 ; bill from gape 1.

*Hab*.—S.-E. Himalayas, from Nepal to Bhootan, extending to the Khasia hills. In Sikkim, according to Jerdon, it frequents the zone from 3000 to nearly 7000 feet. Hodgson says it lays in the Central forests of Nepal in May and June. At Darjeeling, according to Theobald, during July. It also occurs along the hill tracts of Eastern Bengal ; in the north-eastern portion of Pegu on the Karin hills at 4000 feet elevation and on the Tounghoo hills at an altitude of 3500 feet. Oates adds, that Mr. Davison obtained it in Tenasserim on the Mooleyit mountain and at Kollidoo further north. They are shy birds and keep to thick forests, associating in small flocks. They breed on trees, making a nest of twigs and laying two eggs. Breeding season March and April. *Macropygia rufipennis*, Blyth, an allied species, is found in the Nicobar Islands. Nothing appears to have been noticed by late observers of *M. ruficeps*, Temm., a Javan species which Jerdon notices as occurring also in Tenasserim.

**1167. *Macropygia assimilis*, Hume, Str. F.** ii. p. 441 ; *Wald. in Blyth's B. Burm.* p. 146 ; *Wardlaw-Ramsay, Ibis*, 1877, p. 468 ; *Hume*



*Hab.*—Tenasserim on the Mooleyit mountain, and further north at Kollidoo ; also on the Karin hills east of Tounghoo at an elevation of 3000 feet. Extends down the Malay Peninsula. Nothing is known of its nidification.

**Sub-Family.**—TURTURINÆ.—*Bp.*

Habits terrestrial and arboreal ; tail somewhat long, with pale tips to the outer feathers ; neck usually adorned with a ring or spot.

**Sub-Family,** TURTURINÆ.—*Bonap.*

Bill lengthened, slender, the base soft and tumid ; wings long ; feet short ; feathers of the rump rather rigid.

**Gen. Turtur.**—*Selby.*

Bill slender ; wings long, 2nd and 3rd quills longest ; tail moderate, rounded or graduated ; tarsi scutellated in front, naked ; outer toe shorter than the inner.

**1168. Turtur pulchratus.** *Hodgs., J. A. S. B.* xiii. *Turtur rupicolus*, *apud Ferd., B. Ind.* ii. p. 476, No. 792 ; *Hume and Dav., Str. F.* vi. p. 421.—The ASHY TURTLE DOVE.

Forehead pale isabelline ; top of head bluish ashy, nape with a vinous tinge ; upper back, cheeks, sides of the face and sides of the body, also the upper breast, vinous ; chin and a small gular streak pale isabelline ; neck patch black, each feather tipped with paler bluish white ; *lower back and rump bluish ash* ; also the upper tail coverts, which in some are edged with pale rufous ; *central tail feathers dusky black, the others black and tipped broadly with greyish white, the outermost feather on each side white on the outer web and at tip* ; scapulars, tertiaries, lesser and median coverts dark brown, margined with rufous ; greater coverts dusky on the inner web and ashy on outer ; primaries and secondaries dusky brown ; darker on their outer web and very narrowly edged with dirty white ; innermost secondaries edged and

tipped with rufous; lower breast vinous, becoming albescent or ashy white on the middle of the belly, and *pure white on the vent and under tail coverts*; flanks and under wing coverts bluish ash. Bill brown, vinous on the basal half; irides orange; legs vinous red.

*Length*.—14 to 14·5 inches; tail 5·5; wing 8; tarsus 1·1; bill from gape 1·1.

*Hab.*—The Himalayas from Afghanistan to Sikkim at elevations of from 4,000 to 8,000 feet, also the Central Provinces, Central India, the N.-W. Provinces, and Nepaul. Breeds on the lower ranges of the Himalayas during May and June. At Mussooree and Murree it is said to lay in May two pure white eggs, which Hume adds are glossy and regular ovals, varying in length from 1·1 to 1·34, and in breadth from 0·85 to 1.

**1169. *Turtur meena*** (Sykes), *Ferd.*, *B. Ind.* ii. p. 476, No. 793; *Hume, Nests and Eggs* p. 501; *id.*, *Str. F.* iii. p. 163; *Bl. B. Burm.* p. 146; *Hume and Dav.*, *Str. F.* vi. p. 420; *Hume, Str. F.* viii. p. 110; *Scully, Str. F.* viii. p. 340; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 292. *Columba meena*, Sykes, *P. Z. S.* 1832, p. 140. *Turtur rupicolus* (Pall.), *Ferd.*, *B. Ind.* ii. p. 476, No. 792.—The RUFOUS TURTLE DOVE.

Forehead, crown, nape, hind neck and back ashy brown, suffused with vinous, and the feathers indistinctly edged with rufous; a patch on the neck black with greyish tips; lower back and rump dark ashy, edged paler; upper tail coverts brown, edged with pale rufous; scapulars, tertiaries, lesser and median coverts brown, broadly edged with rufous; greater coverts and secondaries edged with ashy, the innermost ones edged with rufous; primaries dark brown edged with rufous; lower plumage vinous red, tinged with purplish in some, paler on the chin and throat; sides of the body, under wing coverts, vent and *under tail coverts ashy*; central tail feathers ashy brown, the others ashy brown, tipped with grey (*Oates*); bill brown, with a tinge of ashy on the basal half; iris orange-red; legs vinous red.

*Length*—13 inches; tail 5; wing 7; tarsus 1·1; bill from gape 1.

*Hab.*—The Himalayas to Nepaul and Ceylon. It is a permanent resident of the hilly portions of Southern India, and of the broken belt of hills that stretch across the continent of India from the northern portions of the Western Ghats to Cuttack; thence it extends into Eastern Bengal, Khasia hills, Cachar, Assam and along the bases of the Himalayas as far west as the Sikkim and Nepaul Terai, and again southwards into Arrakan, Pegu and Northern Tenasserim. (*Hume*.) Breeds from December to April, but the majority lay in March, April and May. The number of eggs is two, and like all doves, pure glossy white.

**1170. *Turtur senegalensis*** (Linn.), *Lev. O. A.* t. 270; *Tem. Fig.*, t. 45; *id.*, *Descr. Egypt*, t. 9, 3; *Gray, Handlist Birds*, No. 9317; *Blf.*,

*East. Pers.* p. 270; *Hume, Str. F.* vii. 463. *Turtur cambayensis* (Gm.), *Jerd., B. Ind.* iii. p. 478, No. 794; *Murray, Hdbk. Zool., &c., Sind.* p. 193; *id., Vert. Zool., Sind.* p. 203.—The LITTLE BROWN DOVE.

Head, nape, lores and sides of the face pinkish vinaceous, as are also the sides of the neck, throat and breast, gradually shading to paler on the upper abdomen, and white or fulvous white on the lower abdomen, vent and under tail coverts; chin white, sides with a patch of black and dark rufous feathers; back and scapulars brown, the latter with a slight rufous tinge; primaries and their coverts dusky brown, first three quills edged with fulvous white; secondaries darker brown than the primaries, slightly edged and tipped with pale grey; wing coverts pale grey, the edges of the feathers lighter; rump, upper tail coverts and central tail feathers like the back, the others black at the base and white for nearly their terminal half; edge of the wing and under wing coverts dark ashy. Bill black; irides dark brown with a white inner circle; legs lake red.

*Length.*—10·5; wing 5; tail 4·5.

*Hab.*—Nearly throughout India, Sind, Kutch, Rajputana, Deccan, Concan, Punjab, N.-W. Provinces, Southern India generally, Beloochistan, Persia and Afghanistan. In Central and Western India specially abundant. Breeds all over the plains of India during March and April.

**1171. *Turtur suratensis*, Gm., Tem. Fig. t. 43; *Jerd., B. Ind.* iii. p. 479, No. 795; *Str. F.* v. pp. 231, 409; *Gray, Handlist* No. 9315; *Murray, Hdbk., Zool., &c., Sind*, p. 194; *id., Vert. Zool. Sind*, p. 203.—The SPOTTED DOVE.**

Forehead greyish white; crown, nape, breast and upper abdomen pale vinaceous, darker on the breast, paling on the lower abdomen and flanks, and albescent on the under tail coverts; chin and throat white; patch on the neck black with narrow rufous tips; back and scapulars isabelline brown, or rufous brown, the feathers with dark shaft-stripes, broadening into a nearly triangular spot at the tip, on each side of which, especially on the scapulars and wing coverts, is a pale rufous or vinaceous spot; in some specimens scarcely a spot, but with this colour edging the feathers; edge of the wing, and the lower series of wing coverts near it greyish white, with faint dark shaft-stripes; primaries and secondaries dusky brown, the first three quills, and some of the secondaries edged with pale or greyish white; primary coverts dark brown; tail with the central feathers brown, the outermost black at the base, and tipped white for the terminal half, and the others with the white tips decreasing in extent; bill blackish; irides hazel, surrounded by a reddish sclerotic membrane; legs reddish.

*Length.*—12 inches; wing 5·5 to 5·75; tail 5·5, graduated.

*Hab.*—Throughout India nearly, to Ceylon and the Himalayas. Replaces the last on the Malabar Coast and in Lower Bengal. Jerdon says it is rare in

the bare Carnatic land, the Deccan, and N.-W. Provinces. Uncommon in Upper Sind, but less so in Lower Sind. Breeds in April and May. It occurs, but less abundantly, in Rajputana and N. Guzerat.

**1172. *Turtur tigrinus* (Tem.),** *Hume, Nests and Eggs Ind. B.* p. 506; *id.*, *Str. F.* i. p. 461; iii. p. 164; *Blyth, B. Burm.* p. 145; *Armstrong, Str. F.* iv. p. 337; *Oates, Str. F.* v. p. 164; *Anders., Yunnan Exped.* p. 665; *Hume and Dav., Str. F.* vi. p. 422; *Hume, Str. F.* viii. p. 110; *Bingham, Str. F.* ix. p. 194; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 290. *Columba tigrina*, *Temm., Knip. Pig.* i. p. 94, pl. xliii. *Spilopelia tigrina*, *Salvad., Ucc. Born.* p. 296.—THE MALAYAN SPOTTED DOVE.

Forehead and cheeks grey; crown, nape, breast and upper abdomen vinaceous, paling on the chin, vent and under tail coverts; patch on the neck and hind neck black, each feather with two white spots at the tip; back, scapulars, wing coverts and rump brown, each feather blackish along the shaft and tipped on both webs with lighter brown; outermost wing coverts pure grey on the outer webs; quills dark brown, some of the tertiaries with blackish shaft streaks and tipped paler; tail brown, the outer feathers broadly tipped with white, the white decreasing in extent on each inner feather on each side till it disappears on the fifth or central pair of feathers, which are dark brown; bill bluish black; irides reddish.

*Length.*—12·4 inches; tail 6; wing 5·5; tarsus 1; bill from gape 0·9.

*Hab.*—The whole province of British Burmah, extending northwards through the Indo-Burmese Countries to Cachar and eastwards to Cochin-China. Ranges down the Malay Peninsula to Sumatra, Java, Borneo and Celebes. Breeds from August to March in low trees and bushes, laying two eggs.

**1173. *Turtur risorius* (Linn.),** *Ferd., B. Ind.* ii. p. 481; *Hume, Nests and Eggs Ind. B.* p. 506; *id.*, *Str. F.* iii. p. 165; *Wald. in Blyth's B. Burm.* p. 146; *Dresser, B. Eur.* vii. p. 51; *Dav. et Oust. Ois. Chine*, p. 387; *Cripps, Str. F.* vii. p. 297; *Legge, B. Ceylon* p. 702; *Hume, Str. F.* viii. p. 110; *Oates, Str. F.* x. p. 235; *Oates, B. Br. Burmah* ii. p. 293; *Blanford, East Pers.* p. 270; *Murray, Hdbk. Zool. &c., Sind*, p. 194; *id.*, *Vert. Zool., Sind*, p. 204. *Columba risoria*, *Linn., Syst. Nat.* i. p. 285.—THE INDIAN RING DOVE.

Head pale greyish brown, with a vinous tinge; the forehead albescent; nape and neck pale vinaceous; collar black, a narrow line of white before and behind it; back, scapulars and innermost tertiaries grey brown, as also are the rump and upper tail coverts; primaries and their coverts dusky brown; the primaries margined narrowly with whitish, and their coverts tinged with greyish; edge of the wing, lower series of the median coverts and greater series also pale grey; under wing coverts greyish white; chin and

throat albescent; breast and upper abdomen, also the sides of the neck and breast pale vinaceous; flanks, lower abdomen, vent, thighs and under tail coverts ashy grey, the latter with whitish tips; tail with the central feathers like the back; outermost feathers on each side narrowly margined with greyish white on their outer web, with a broad black band about the middle, greyish at base, and broadly terminated with white, which on the others increase in extent. Bill black; irides crimson; orbital skin whitish; legs pinkish.

*Length*.—12 to 13 inches; wing 6·5; tail 5; bill at front 0·81.

*Hab*.—India generally, and Ceylon, except the more moist regions, as the Malabar Coast; abundant in Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan, Central and South India, also Beloochistan and Southern Afghanistan. Rare in Burmah. Breeds throughout the year.

**1174. *Turtur humilis* (Temm.), *Ferd.*, *B. Ind.* ii. p. 482; *Hume, Nests and Eggs Ind. B.* p. 507; *id.*, *Str. F.* ii. p. 269; iii. p. 165; iv. p. 292; *Armstrong, Str. F.* iv. p. 338; *Wald., Trans. Zool. Soc.* ix. p. 219; *David et. Oüst. Ois. Chine*, p. 388; *Hume and Dav., Str. F.* vi. p. 423; *Hume, Str. F.* viii. p. 110; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 294; *Murray, Hdbk., Zool., &c., Sind*, p. 194; *id.*, *Vert. Zool., Sind*, p. 204. *Turtur tranquebaricus, Herm., Obs. Zool.* p. 200; *Bly., B. Burm.* p. 145. *Turtur humilior, Proc. As. Soc. Beng.* 1874, p. 241; *id.*, *Str. F.* iii. p. 279.—The RED TURTLE DOVE.**

*Male*.—Head and nape ashy grey, also the lores and sides of the face, slightly paler on the forehead; collar black, set off by whitish before and behind it; back, scapulars and wing coverts brick red, slightly paler behind the black collar; chin whitish; throat, breast and entire lower surface pale vinous red, white on the vent and lower tail coverts; rump and upper tail coverts deep slaty; primaries, their coverts and secondaries dusky brown; the margin of the primaries, as also the margins and tips of the secondaries, whitish; primary coverts slightly tinged with vinous red on their outer webs; edge of the wing greyish, some of the dark bases of the median coverts showing through; tail with the middle feathers ashy brown, the others greyish black at the base, and broadly tipped with white; outermost feathers on each side white on the exterior web; bill black; irides dark brown; legs purplish red.

*Length*.—9 inches; wing 5·5 to 5·75; tail 3 to 3·25. The *female* is duller in colour on the back, being more of an earthy brown and much paler below.

*Hab*.—The drier regions in India, to Ceylon and the foot of the Himalayas. Common in the Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan and Deccan, but less so in Sind. Occurs also in Assam and Northern Burmah. In Sind it affects the northern districts chiefly; seldom seen below Sukkur. It is not known from S. Afghanistan, where *T. senegalensis* replaces it.

**Family, GOURIDÆ.—GROUND-DOVES.**

Wings moderate; tarsus longer than in the *Turturina*, as are also all the toes; wings shorter and less pointed. The Indian representatives of the family belong to the *Phapidina* and *Caloenina*.

**Sub-Family, PHAPIDINÆ.**

General characters as of the family; tarsus not feathered; tail of 12, 14 or 16 feathers.

**Gen. Chalcophaps—Gould.**

Bill slender; wings moderately long; 2nd and 3rd quills nearly equal and longest; tail rather short and rounded; tarsus not feathered; plumage rich glossy metallic green.

**1175. *Chalcophaps indica* (Linn.), *Jerd.*, *B. Ind.* ii. p. 484, No. 798; *Hume, Nests and Eggs Ind. B.* p. 509; *id.*, *Str. F.* ii. p. 269; iii. p. 165; *Salvad., Ucc. Born.* p. 299; *Bourdillon, Str. F.* iv. p. 404; *Blyth, B. Burm.* p. 147; *Dav. et. Oust. Ois. Chine*, p. 384; *Hume and Dav., Str. F.* vi. p. 424; *Hume, Str. F.* viii. p. 110; *Legge, B. Ceylon* p. 714; *Oates, Str. F.* x. p. 235; *Kelham, Ibis*, 1881, p. 528; *Oates, B. Br. Burm.* ii. p. 297.—The EMERALD DOVE.**

Forehead white, continued as a supercilium over the eye; crown, nape, a narrow band down the hind neck and another across the upper back ashy-grey; back and wings shining dark emerald green; quills dark brown, the secondaries metallic green on the external web; tertiaries bright metallic green; smaller coverts near the edge of the wing white; on the lower back a narrow band of ashy, followed by a broad black one, then a second ashy one, and lastly a broad band, which with the upper tail coverts is dark ashy brown, tipped darker; sides of the head and neck and the whole under surface of the body deep vinaceous, rather duller on the abdomen; under tail coverts ashy; three central pairs of tail feathers dark brown, tipped paler, the others banded with black and ashy; under wing coverts chestnut; bill red; irides dark brown; eyelids plumbeous; legs dusky red.

*Length*.—10·5 inches; tail 4; wing 5·8; tarsus 1; bill from gape 0·9.

*Hab.*—Throughout India in forest countries and well wooded districts; not in the drier regions, as Sind, Rajputana, Kattyawar, &c. It is abundant in Lower Bengal; extends to Assam and all the countries on the east of the Bay of Bengal as far as Tenasserim. It also occurs in Ceylon, the Andamans, Nicobars, the Indo-Burmese Countries, South China, Siam, the Malay Peninsula, and all the islands nearly down to Australia. Frequents thick forests, and is met with in small parties or in pairs. Breeds from March to July in suitable localities. The nests, according to Hume, are placed in some dense bush or

low thick-foliaged tree. They are more regular saucers than those of other doves, composed of roots, grass, or twigs, but comparatively neat and with a central depression. Eggs two in number, pure white, from 1 to 1·1 inch in length and from 0·82 to 0·86 in breadth.

Gen. **Geopelia**.—*Swains.*

General characters of *Turtur*; tail of 12 feathers only.

**1176. *Geopelia striata* (Linn.),** *Salvad., Ucc. Born.* p. 298; *Hume and Dav., Str. F.* vi. p. 423; *Hume, Str. F.* viii. p. 110; *Kelham, Ibis*, 1881, p. 528. *Columba striata*, *Linn., Syst. Nat.* i. p. 282.—The BARRED GROUND DOVE.

Forehead and crown, as far as the eyes, also the cheeks, chin, and throat pure grey; upper part of the ear coverts grey; lower part brown; remainder of the crown and nape vinous brown; sides of the neck, whole hind neck and upper back, sides of the breast and of the body white, closely and finely barred with black; centre of the breast and abdomen vinaceous; vent and under tail coverts white; lower back, rump, upper tail coverts, scapulars, wing coverts and tertiaries brown, each feather with a terminal black bar; primaries and secondaries dark brown, the latter broadly edged with the colour of the back; central tail feathers pale brown, the others dark brown, the four outer pairs broadly tipped with white; under wing coverts chestnut. (*Oates.*) Front of tarsus and toes pinkish purple, with the scutation divided by pink lines; back of tarsus and soles fleshy pink; bill blue at base, bluish white terminally; irides white or grey, brown. (*Davison.*)

*Hab.*—Tenasserim, in the extreme south, extending down the Malay Peninsula; is also found in Sumatra and Java. According to Davison its habits are like those of *Turtur tigrinus*

**Sub-Family, CALCENINÆ.**

Bill strong with a tubercle at base; legs and feet stout; head with long crest; plumage metallic.

**1177. *Caloenas nicobarica* (Linn.),** *Hume, Str. F.* ii. p. 271; *id., Nests and Eggs* p. 510; *Blyth, B. Burm.* p. 147; *Hume and Dav., Str. F.* vi. p. 425; *Hume, Str. F.* viii. pp. 68, 110; *Oates, B. Br. Burm.* ii. p. 299. *Columba nicobarica*, *Linn., Syst. Nat.* i. p. 283.—The HACKLED GROUND-PIGEON.

Entire head and neck from deep slaty grey to blackish brown; a long and thick bunch of narrow hackles from the base of the occiput hairlike and slaty grey and from the back of the neck metallic green, shot with gold and copper and margined with slaty grey; rest of upper plumage except the tail and longer and upper tail coverts which are white—refulgent with metallic reflections; lesser wing coverts, outer webs of primaries, winglet, greater coverts, and earlier

secondaries glossed with deep blue; other portion of secondaries and their coverts, most of the median coverts, rump and shorter upper tail coverts brilliant green; scapulars adjoining the wing coverts the same, but with a coppery glow; upper breast like the head; lower breast, abdomen, sides, flanks, vent and shorter under tail coverts variegated deep metallic green and dark slaty, the latter forming a fringe to the feathers; first two primaries unglossed; inner webs of the primaries and secondaries and their under surface blackish brown; wing lining and axillaries brighter or duller metallic green or deep blackish slaty with a tinge of gloss; lower breast deep metallic green, the feathers tipped purplish; tibial plumes rich purplish blue. The young want the metallic gloss and protuberance at base of bill, and is duller everywhere; bill dark blackish grey; irides deep brown; legs dull purplish lilac.

*Length*.—16 inches; tail 3·5; wing 10; tarsus 1·7; bill from gape 1·5.

*Hab*.—This, the most lovely species of the Pigeon group, inhabits the Mergui Archipelago and the Nicobars, and extends to the Malay Peninsula. Feeds on fruit; nests on trees only as far as has yet been ascertained on the Island of Battye Malve in the Nicobars. The nests are like those of other pigeons. Egg, one only, spotless white; 1·84 × 1·27.

### **Order, Rasores**.—GALLINACEOUS OR GAME BIRDS.

Bill usually short, vaulted, more or less arched and bent down at the tip; nostrils situated in a membrane at the base of the bill; wings usually short; tail variable in length and form; tarsi long and strong, often spurred; hinder toe short and elevated from the ground.

### **Family, PTEROCLIDÆ**.—SAND OR ROCK-GROUSE.

Bill short, curved to the tip and compressed at the sides; wings and tail long and pointed; tarsi feathered; hind toe small.

### **Gen. Pterocles**.—*Tem.*

Bill small, rather stout; culmen curved, sides compressed; nostrils at base partly covered by membrane; wings long, 1st and 2nd primaries longest; tail with the median rectrices sometimes lengthened beyond the rest; tarsi short, feathered in front and on the inner side.

Mr. D. G. Elliott has a very clear and exhaustive paper on the *Pteroclidæ* Family in the Proceedings of the Zoological Society of London, 1878, pp. 233, 264, giving the literature of the Family, its classification and a review of the geographical distribution, as well as a key and descriptions, with the synonymy of each species. The following key is extracted from the paper referred to, and will be found most useful.



## A. "Without pectoral band.

- (a) Stripe on each side of forehead from nostril to above the eye; chin and centre of throat black...*P. coronatus*.  
 (b) Lores and band encircling back of head pearly grey; cheeks, ear-coverts and throat orange yellow; centre of abdomen black .....*P. senegallus*.

## B. With pectoral band.

- (a) Without black bar on forehead.  
 (a') Median rectrices not lengthened beyond rest; upper part of throat and sides of neck rufous; lower portion of throat black; band on lower part of breast, abdomen and flanks black.....*P. arenarius*.  
 (b') Median rectrices greatly lengthened beyond the rest.  
 (a'') Throat yellow; black band across breast; abdomen and flanks chestnut .....*P. exustus*.  
 (b'') Throat and stripe behind the eye black; sides of throat rufous; centre of breast chestnut, bordered above and below with black; rest of under parts white .....*P. alchata*.  
 (b) With black bar on forehead.  
 (a') Breast uniform greenish buff.  
 (a'') Throat pale buff; upper part of breast buff, crossed with numerous narrow black bars; middle of breast uniform buff, crossed in the centre by a narrow black bar and another of the same hue on its lower edge; rest of under parts yellowish white, barred narrowly with black .....*P. lichtensteini*.  
 (b'') Throat and breast buff; triple band separates the fulvous breast from the abdomen, the first maroon, the second creamy white, and the 3rd unspotted chocolate brown.....*P. fasciatus*.

**1178. *Pterocles coronatus*, Licht, Verz. d' Doubl. p. 65; Tem. Pl. Col. No. 339, 340; Heugl. Syst. Ueber. N. O. Afr. p. 304; Ibis, 1864, pp. 27, 240; id., 1870, pp. 9, 16; 1871, p. 144; Str. F. i. p. 224; id. (1876); iv. p. 230; Blf., East. Pers. ii. p. 272; Murray, Hdbk., Zool., &c., Sind, p. 200; Elliott, P. Z. S. 1878, No. 282.—THE CORONATED SAND GROUSE.**

## PLATE, fig.

*Male*.—A line on each side of the forehead from the nostrils to above the eye black, and a pale fulvous one between these from the point of the forehead. Crown of the head pale chestnut, vinous or rufescent fawn. A pearly grey band from the anterior angle of the eye, continued as a supercilium and

AVIFAUNA OF BRITISH INDIA



1. *Pterocles senegallus*.

2. *Pterocles coronatus*.

3. *Pterocles fasciatus*.

4. *Pterocles lichtensteini*.

5. *Pterocles senegallus*.

6. *Pterocles lichtensteini*.



extending round to the nape;\* lores and a narrow band edging the black chin and throat stripe white; sides of the face, ear-coverts and the neck all round orange buff; base of the neck and upper back isabelline, the feathers edged dusky grey; interscapulars the same, with median buffy spots at the tips; rump and upper tail-coverts a dark or dirty grey, mixed with the fulvous of the base of the feathers; tail with the median rectrices of a pale vinous colour, dark shafted, with a subterminal dark spot, and very narrowly tipped with white; lateral feathers deeper vinous with also a subterminal dark bar, and broadly tipped with white; all the feathers with a few dusky sprinkles behind the dark band; primaries and their coverts dull grey or dusky brown; all the primaries, except the first three, broadly margined with fulvous white obliquely towards the tips on their inner webs, and also slightly tipped the same; secondaries hair brown; tertiaries vinous on their inner webs and edged on the outer with buffish; scapulars vinous at the base, dark shafted, with a subterminal dark band, and mesially tipped with a nearly oval buff spot; median wing coverts the same; the greater series greyish buff or buffy isabelline; abdomen, flanks, under wing coverts, vent and lower tail coverts white, slightly soiled on the middle of the abdomen, and in some specimens a pale isabelline; tarsal plumes white.

The *female* has the throat and sides of the neck orange buff; the chin paler and nearly albescent; the crown very pale cinnamon; entire upper surface buff, with, in some specimens, a vinous tinge and barred with numerous crescentic and broken bands of dark brown; breast and under parts paler buff, also with crescentic bands; the flanks albescent; scapulars largely blotched with dusky, and with buff tips; primaries and secondaries as in the male, but very pale or hair brown.

*Length*.—11·75 to 12 inches; wing 7 to 7·75; tail 3·75; bill at front 0·45.

*Hab*.—Sind, Persia, Beloochistan, Afghanistan, N. W. Arabia, Egypt and Nubia. Breeds in the southern portions of the Sahara, where it is said to replace *P. arenarius*.

**1179. *Pterocles senegallus*, Lin. Mantissa. 1771, p. 526; Lath., Ind. Orn. vol. ii. p. 642; Gray, Gen. B. vol. iii. p. 519; Tristram, Ibis, 1860; Str. F. i. p. 221; iii. pp. 418, 4; v. 231; Murray, Hdbk., Zool., &c., Sind, p. 197. *Pterocles guttatus*, Licht. Verz. Doubl., *Pterocles senegalensis*, Shaw, Nat. Misc. vol. iv. pl. 933; Shelley, Ibis, 1871, p. 144.—THE SPOTTED SAND GROUSE.**

#### PLATE, fig. 1.

"The male has the whole chin and throat with a patch extending upwards from the throat, towards, but not quite meeting on the back of the

\* In two specimens I possess there is a distinct pearly grey band across the forehead immediately behind the termination of the black forehead stripes.

neck, bright buffy yellow or orange buff; lores, forehead, a broad stripe over the eye continued round the nape and the back of the neck, pale blue grey, dull and tinged fawny in some specimens; crown, occiput, and nape, a sort of dove colour or pale, slightly rufous fawn; back and rump a somewhat similar, but more sandy colour, in many specimens more tinged with fawn; the upper tail coverts buffy yellow, all, but the longest obscurely tipped with a somewhat pinkish mouse colour. They are more or less pale dove colour at their bases, which colour however is not seen till the feathers are lifted. The central tail feathers have the pointed tips black, in many specimens more or less tinged hoary buff, and the rest of the visible portion yellowish buff, but the bases, as may be seen on lifting the feathers, are greyish; the lateral tail feathers are a greyish brown at base, dark-shafted, with conspicuous white tips, and broad blackish brown subterminal bands; the primaries are pale isabelline, the shafts conspicuous and black; they have broad ill-defined subterminal brown bands, beyond which there is a narrow paler tipping, and they are pretty conspicuously margined on their inner webs towards the tips with still paler isabelline. The first primary has the outer web browner, the others have the outer webs, especially toward the bases, a brighter isabelline. The whole visible portions of the lesser coverts and of the primary greater

**"The female has the yellow chin and throat patch like the male, but paler; the lores and feathers immediately encircling the eye pale isabelline white; the whole upper parts and the neck all round pure isabelline, tinged slightly rufous on the occiput, nape, and back, and conspicuously spotted with dull, somewhat greyish, black; the spots on the forehead and front part of the head are small and irregular; on the nape and occiput they are more or less arranged in rows (so as to produce more of a striated appearance) and in a band running from behind the eye round the nape, they are very much**

more densely set ; on the upper tail coverts they are larger ; while on the scapulars they take the form of double spots or irregular bars. The primaries and their greater coverts are much as in the male, but paler ; the central tail feathers are isabelline, dark shafted, the point greyish black, and the rest of the feather with narrow, transverse, irregular bars of the same colour on both webs ; the lateral tail feathers are much as in the male, but have the basal portions more tinged with isabelline, and more or less imperfectly barred. The breast, abdomen, and wing lining are as in the male, but somewhat purer and paler ; the abdominal patch is narrower and perhaps also somewhat paler.

"Irides brown, bare ; orbital skin yellowish ; bill pale plumbeous, bluish grey, or bluish white, always somewhat more dusky towards the tip ; feet pale plumbeous or bluish white, paler towards the tips of the toes ; weight 8 to 12 ounces, but averaging about 10 ounces.

"*Male, length.*—13·4 to 14·7 inches ; expanse 23 to 23·7 ; tail from vent 5·3 to 6 ; wing 7·5 to 7·9, the wings when closed reach to within from 2·3 to 2·8 of the end of the longest tail feathers, viz., the central ones, which exceed the others by from 1·75 to 2 ; bill at front 0·44 to 0·47 ; tarsus 1 to 1·05.

"*Female, length.*—12·4 to 13·1 inches ; expanse 22 to 22·6 ; tail from vent 4 to 4·6 ; the central tail feathers only extending from 0·75 to 1·2 beyond the rest ; wing 7·3 to 7·5 ; bill at front 0·4 to 0·44."—*Hume, Str. F. i. p. 219.*

Common throughout Rajputana, Kutch, Kattiawar, Guzerat and the Punjab. Breeds in Sind. Like the preceding species it is found in N. Africa, also in N. W. Arabia, and in Beloochistan.

#### PLATE.

**1180. *Pterocles arenarius*, *Pall., Nov. Comm. Petrop.* vol. xix. p. 418 ; *id., Rosso. As.* ii. p. 73 ; *Lath., Ind. Orn.* ii. p. 642. *Pterocles arenarius*, *Tem. Pig. et Gallin.* vol. iii. p. 240 ; *id., Pl. Col.* Nos. 52, 53 ; *Gray, Gen. B.* iii. p. 518 ; *P. Z. S.* 1858, p. 501 ; *Ibis*, 1859, p. 352 ; 1860, p. 69 ; *Ferd., B. Ind.* iii. p. 496 ; *Str. F. i. p. 219* ; iii. 418 ; iv. 179 ; *Blf., East. Pers.* ii. 271 ; *Murray, Hdbk., Zool., &c., Sind*, p. 194.—The LARGE SAND GROUSE.**

"Forehead and crown greyish brown, with a faint pearly tinge, in some specimens with a buffy tinge ; lores behind the eye and ear coverts light grey, in some specimens, especially old males, the dark shafts of the feathers of the lores, under the eye, and of the ear coverts are distinctly visible and end in bristles ; nape and base of the neck, like the crown ; back, scapulars, upper tail and wing coverts rich buff or orange buff with a subterminal dark bar, the bases of the feathers paler buff, with waved barrings and vermiculations ; primaries greyish and black shafted, the outer web of the outermost quill dark brown, and with the two following tipped blackish, the rest the same,

but edged on the tip and the outer edge of the inner web near the tip, with whitish, the under surface black; the secondaries basally white or fulvous white, with faint vermiculations on the exterior webs, all broadly tipped dusky, and the margin of the exterior web blackish; tertiaries dusky grey, or buffish, with vermiculations basally, and margined at the tips on the exterior web with rich buff or orange buff; the visible portion of the lower series of the median and greater coverts rich buff or orange, forming in the closed wing, with the outer edges of the tertiaries, an oblique bar of rich buff; edge of the wing fulvous white; under wing coverts pure white; chin, upper throat, sides of the neck to behind the ear coverts and nape deep chestnut; middle of the throat with a large triangular patch of black; breast dull ashy or pearly grey, crossed on the lower part by a broad black band, succeeded by a broad buffy one, about four times the width of the black band; abdomen, vent and thigh coverts deep black; under tail coverts black, tipped with white; tail with the central tail feathers like the back, or orange buff, with numerous dark bands, and slightly elongated beyond the others; lateral feathers dusky rufescent, with darker narrow bars, tipped white, and with a subterminal black band; tarsal feathers fulvous white; bill bluish; feet dull yellowish brown; irides dark brown.

"*Length*.—11·75 to 12·5; wings 9·25; tail 4 to 4·25; tarsus 1·1.

"The female differs in having the whole head and upper parts, and also the breast narrowly barred with brown. The pectoral band is narrower and the chin fulvous with a narrow black edge."

*Hab.*—The desert regions of Asia, Southern Europe and North Africa; Asia Minor and Palestine. Everywhere common in Sind, Punjab, N.-W. Provinces, Oudh and Bengal; Kutch, throughout Rajputana, Kattiawar and North Guzerat; Beloochistan, Persia, Afghanistan and Eastern Turkistan.

**1181. *Pterocles exustus*, Tem. Pl. Col. Nos. 354; 360; *Rupp. Les. Trait. Orn.* p. 517; *Sykes, P. Z. S.* 1832, p. 154; *Gray, Gen. B.* iii. p. 519; *Ferd., Madras Jour.* xii. p. 3; *Handlist, Syst. Orn. W. Afr.* p. 205; *Ferd., B. Ind.* iii. p. 502; *Hume, Str. F.* vii. p. 160; *Elliott, P. Z. S.* 1878, p. 248; *Murray, Hdbk., Zool., &c., Sind*, p. 202.—THE COMMON SAND GROUSE.**

#### PLATE, fig. 5.

Head, nape, sides of the neck and breast isabelline with a faint fulvous tinge; lores, sides of the face, chin and throat yellowish or light orange buff; back and rump like the breast, the feathers with darker tips; scapulars tipped greyish fulvous; upper tail coverts with a greenish cast; primaries dusky brown, all, except the four outermost broadly white on their inner margins near the tip, the innermost also tipped white; secondaries hair brown, their terminal third with buffy edges on their exterior webs; tertiaries the same, but with narrower buff edgings; wing coverts buff, the feathers tipped narrowly

with blackish chestnut ; tail with the central feathers much elongated beyond the rest, slightly darker buff than the wing coverts, black-shafted and the lengthened narrow portion black ; lateral feathers dusky rufescent, with pale rufous bars on their exterior webs, tipped white and with a subterminal dark band ; a narrow black pectoral band, occasionally edged on its upper side with fulvous white followed by a broad band of isabelline ; rest of the under parts chocolate brown, paler on the vent ; flanks and thigh coverts chestnut ; lower tail coverts creamy or fulvous white ; tarsal plumes fulvous or yellowish white.

The female has the entire upper plumage, as also the space between the pectoral band and abdomen, fulvous, closely barred with deep brown ; breast unspotted isabelline, like the male.

*Length*.—10 to 11·5 inches ; wings 7 ; tail 3·5. The males average from 9·5 to 10 inches in length ; bill leaden brown ; legs brown ; irides dark brown.

*Hab*.—N.-E. Africa, Arabia, Nubia, Egypt, Abyssinia and Palestine ; Sind, Kutch, Rajputana, Kattiawar, N. Guzerat and Deccan ; Punjab, N.-W. Provinces, Bengal, Sylhet, Burmah, Beloochistan, Quetta and Afghanistan. Breeds almost everywhere from February to August according to locality, laying 2—3 eggs of a fine smooth texture and gloss, rather long and cylindrical, of a pinkish stony colour, thickly spotted and streaked or irregularly blotched with dark and light shades of olive brown and inky purple, varying in length from 1·32 to 1·6 inches and in breadth from 0·95 to 1·11.

**1182. *Pterocles alchata*, Linn., *Syst. Nat.* i. p. 276 ; *Gmel., Syst. Nat.* i. 754 ; *Lath., Ind. Orn.* ii. p. 641 ; *Licht., Verz. Doubl.* p. 64 ; *Jerd., B. Ind.* iii. p. 500, No. 801 ; *Hume, Str. F.* i. p. 221 ; *Blf., East. Persia* ii. p. 271 ; *Murray, Hdbk., Zool., &c., Sind*, p. 197 ; *Elliot, P. Z. S.* 1878, p. 251. *Pterocles setarius*, *Tem., Pig. et Gallinæ* iii. pp. 256, 714.—The PIN-TAILED SAND GROUSE.**

#### PLATE, fig. 6.

*Male*.—Forehead and crown, also the nape and sides of the face yellowish buff with a ferruginous tinge ; the crown with some nearly obsolete dark bars ; chin, throat and a streak behind each eye black ; neck in front and upper breast greenish buff, the feathers above pale chestnut, those of the breast with a dark brown transverse band forming a bar across ; lower breast pale chestnut, the feathers ashy white at base, with a subterminal dark or dusky bar, and broadly terminated with chestnut ; a black band separates the chestnut breast from the white of the abdomen ; hind neck olive brown ; upper back the same, each feather tipped with yellow ; lower back, rump and upper tail coverts pale buff, with, in some, a rufescent tinge, barred transversely with black ; scapulars rufescent or orange buff, the feathers barred with black and tipped with yellow ; on some feathers this yellow tip is subterminal, with a very narrow black margin at the extreme tip ; shoulder of wing olive brown ; lesser, median and greater coverts broadly maroon, bounded



above and below with a narrow white line, and tipped narrowly with black, the bases of the feathers being brownish ash; upper series of the median and greater coverts olive brown at base, then broadly greenish yellow and margined with black at the tips; primary coverts brownish ash, black-shafted; primaries black-shafted, all (except the outer web of the first which is black) with their outer webs ashy grey, their inner webs rufescent grey near the shaft; (not extending to the tip) then broadly dusky brown, and narrowly margined to the tip with white; secondaries with the outer webs and tips of the inner webs dusky brown, rest of the inner web and edging to the outer web white; tertiaries greenish olive on their outer web and rufescent grey on their inner, the uppermost with a yellow spot terminally; abdomen, flanks and axillaries white, the shafts of the feathers, except those of the axillaries, black basally; a large white patch on the under surface of the wing, formed by the white bases of the inner webs of the secondaries and their coverts; the edge of the wing inside dusky brown; tarsal plumes whitish; tail with the lateral feathers white on their outer webs, their inner webs grey brown, margined with narrow, nearly obsolete dusky and buff bars, the tips of the feathers broadly white; rest of the tail feathers barred buff and dark brown, plain grey brown near the shaft, and all (except the longest rectrices, which are black) tipped with white; bill horny; orbits dark plumbeous; irides dark brown.

*Length*.—To end of longest rectrices 13 inches; wing 8; tail 6 to end of longest rectrices.

*Female*.—Top of head and back deep buff, barred with black; sides of face and neck orange yellow; throat and chin white; a dark band on the lower neck, another on the upper breast, and a third on the lower breast separating the white of the abdomen. Upper plumage barred black and buff; secondaries the same, with a subterminal grey bar.

*Length*.—13 inches; wing 7.75; tail 5.37; irides and orbits as in the male.

*Hab*.—Sind, Punjab, N.-W. Provinces and Rajputana; Beloochistan (in the Bolan, Quetta and at Khelat), Persia, at Bushire, Southern and Eastern Afghanistan and Eastern Turkestan. It also inhabits N. Africa, Palestine, Spain and Portugal, and is said to breed in parts of Western Asia. In Sind, in especially the Northern districts, the Pintail is found in flocks, and sometimes in countless numbers; in the southern parts it is also found, but evidently only as stragglers.

**1183. *Pterocles Lichtensteinii*, Tem. *Planch. Col.* 355-361; *Heuglin, Syst. Ueber. Vog. N. Afr.* p. 304; *Speke, Ibis*, p. 247; *Hume, Str. F.* i. p. 219; *Murray, Hdbk., Zool., &c., Sind*, p. 195. *Butbur*, Sind.—The CLOSE-BARRED SAND GROUSE.**

PLATE, fig. 4.

*Male*.—Frontal zone white, or buffy white; a broad black semicircular band behind it extending from the anterior angle of the eye on each side; behind

this another white or buffy white band, interrupted on the crown, the feathers of which are buffy white and mesially dark brown; a buff spot above the hinder angle of each eye; chin and throat pale buff, their sides the same, with minute black spots; upper breast, hind neck and back pale or fulvous white, with regular and close barrings of black; scapulars, wing coverts and tertiaries the same, the black transverse bars rather broader and deeper in colour, the tips of the feathers broadly yellowish buff; upper tail coverts fulvous white, the black bars more distant and as wide as the fulvous interspaces; primaries and their coverts hair brown, the outer web of the first margined with dull white, more conspicuous basally, and some of the inner ones with white margins to the tips; secondaries dark brown; lower breast yellowish buff with a narrow black band crossing it in the middle and another on the lower part of the breast, formed by the dark termination of the lowest breast feathers; below this the abdomen, flanks, vent and under tail coverts are white, with transverse brown bars; tarsal plumes buffy white; tail barred buff and black, the terminal black bar broadest, with a streak running up the shaft of the feathers and partially dividing the broad buffy tips.

The *female* wants the frontal patch and the semicircular band behind it, also the buff breast and band crossing it in the middle; the chin and throat are pale buffy, minutely spotted with dark brown; the upper surface of the body finely, closely and narrowly barred with pale fulvous and dark brown; the lower surface the same, but the fulvous interspaces are broader and the dark bars narrower; bill horny; feet yellow; irides brown; orbits lemon yellow.

*Length*.—10 inches; wing 7.25; tail 3.25; bill 0.62.

*Hab*.—Sind, Punjab, Arabia, N.-E. Africa.

**1184. *Pterocles fasciatus* (Scop.), Gould, *B. Asia*, pt. ii. pl. 14; *Ferd., Ill. Ind. Orn.* pl. 10 and 36; *id.*, *B. Ind.* ii. p. 498, No. 800; *Hume, Nests and Eggs Ind. B.* p. 511; *id.*, *Str. F.* i. p. 391; vii. p. 160.—The PAINTED SAND GROUSE.**

#### PLATE fig. 3.

A narrow white band on the forehead followed by a broad black one and succeeded by a narrow white one, and another black one which widens behind the eye and ends in a white spot; occiput and nape streaked with black and fulvous; sides of the head, neck, breast and shoulder of wing fulvous yellow or buff; back, scapulars, tertiaries and tail fulvous yellow banded with deep brown; quills, brownish black with narrow pale edging; median and greater coverts and some of the secondaries broadly banded with black and edged with white; a triple band—a maroon, a creamy white and a chocolate brown one—separates the fulvous breast from the abdomen, which with the vent and under tail coverts are also chocolate brown, the feathers tipped with white. The *female* has not the bars on the occiput and nape, nor the pectoral bands and the wing bars; the sides of the neck, breast, wings, and tail are mixed fulvous

and rufous and finely barred with black; lower breast and abdominal region finely barred with blackish and creamy or fulvous white; bill red; irides dark brown; feet dull yellow.

*Length*.—10 inches; wing 7; tail 3·25; tarsus 1·1.

*Hab*.—The greater part of India, except in the very moist countries. It is recorded from the Deccan, Carnatic and Central India, also from Sind, Punjab, and the N.-W. Provinces, and from Delhi to Mount Aboo in Guzerat, Jodhpore, and Sambhur. Affects the low ranges of rocky and more or less barren hills. They breed almost everywhere they occur, making a depression in the soil and laying 2—3 eggs, a delicate pinkish fawn or pale salmon colour, here and there finely speckled, spotted and streaked with brownish red and numerous spots of pale pinky purple underlying as if it were the primary marking. In shape and markings the eggs vary a good deal. In length they vary from 1·3 to 1·62, and in breadth from 0·93 to 1·05.

### Gen. *Syrrhaptes*—Lin.

Feet smaller than in *Pterocles*, and feathered to the claws; hind toe wanting; 1st and 2nd primaries lengthened and attenuated.

**1185. *Syrrhaptes thibetanus***, Gould, *Cent. Him. B.* pl.; *id.*, *Birds Asia*, p. ii. pl. 69; *Yerd.*, *B. Ind.* iii. p. 504 (*note and descr.*); Hume and Marsh., *Game Birds Ind.* i. p. 43, pl.—THE THIBETAN SAND GROUSE.

*Male*.—Forehead and lores whitish, faintly tinged with buffy, the feathers dark shafted; crown, occiput and nape white, closely and narrowly barred transversely with dark brown; chin, throat, cheeks, ear coverts, sides and front of neck buffish yellow during the breeding season; and buffish white during winter; back of the neck, upper back and lower breast whitish, tinged with vinaceous, and transversely barred narrowly with brown; scapulars and tertials vinaceous fawn, the inner webs of the scapulars with large black blotches, and everywhere excessively finely vermiculated with blackish brown; lower back and rump white, vermiculated with greyish brown; upper tail coverts fawn colour, also vermiculated with greyish brown; central tail feathers fawn colour, the attenuated portion slaty black; lateral tail feathers rufous buff, tipped with white and barred widely with black; primaries and their coverts slaty black, with a white patch near the tip on the inner web; secondaries black; lower breast grey; rest of under surface white, the feathers of the leg tinged with fulvous.

*Length*.—18 to 20 inches; wing 9·9 to 10·5; tail 7·5 to 9·5; bill at front 0·74 to 0·78.

*Hab*.—The semi-desert plains of Ladak and the upper portions of the Sutlej Valley. Hume adds that he saw numbers on the Roopshoo plains about the head of the Pangong Lake. It has also been got by Wilson on the water shed range crossing from the Mussoorie hills into Thibet.

**Family.—PHASIANIDÆ.**

Bill moderate, strong, vaulted, the tip of the upper mandible hooked over the lower; nostrils apert. Wings moderate or short; tail of from 12 to 18 feathers, long and broad; tarsus moderate or long, spurred in the males; toes long; hind toe raised. This family includes the Peafowls, also the Jungle and Spur fowls and Pheasants.

**Sub-Family.—PAVONINÆ—PEAFOWL.**

Plumage brilliant green, shot with gold, and ocellated.

**1186. *Pavo cristatus*, Linn., Syst. Nat. i. p. 267; Elliot, Mon. Phas. i. pl. v.; Jerd., B. Ind. iii. p. 506; Hume and Marsh., Game Birds p. 83; Murray, Vert. Zool., Sind, p. 212.—The COMMON PEACOCK.**

Crest with bare shafts, except at the tip. Whole head, neck, and breast rich purplish blue with gold and green reflections; scapulars, tertiaries and lesser wing coverts rufescent, barred with black; facial skin greyish white; back green, the feathers scale-like in appearance with coppery edges; median coverts deep blue; primaries and tail chestnut; abdomen and under surface black; train green, ocellated. Bill horny brown; irides dark brown.

*Length*.—Without train, 42 to 48 inches; with train, more than double the length of head to true tail; wing 18.

The pea hen is chestnut brown on the head and nape; neck greenish, edged with whitish brown; upper surface of the body hair brown with undulations; quills brown; tail deep brown, tipped with white; chin and throat white; breast greenish, like the neck; abdomen white; under tail coverts brown.

*Length*.—38 to 40 inches; wing 16; tail 14. Crest feathers with bare shafts except at the tip.

*Hab*.—Throughout India proper, extending into Ceylon and Assam. This lovely bird is so well known that any account of its habits would be superfluous. They generally roost at night on high trees, seldom, if ever, on the ground, except perhaps when disturbed at night and are forced to fly down. They pair in the early part of the hot weather, when the peacock has then his full train of upper tail coverts to display to his wives. They lay in July and August. Eggs, pure white, or a rich *café au lait* or reddish buff, with strong glossy shells pitted all over with minute pores. Size 2.55 to 3 × 1.92 to 2.2 inches.

**1187. *Pavo muticus*, Linn., Syst. Nat. i. p. 268; Elliot, Mon. Phas. i. pl. 5; Hume, Str. F. iii. p. 165; Blyth and Wald., B. Burm. p. 147; Dav. et Oust. Ois. Chine, p. 402; Anders., Yunnan Exped., p. 668; Hume and Dav., Str. F. vi. pp. 425, 520; Hume, Str. F. vii. p. 455; viii. p. 110; Hume and Marsh., Game Birds p. 94, pl.; Bingham, Str. F. ix. p. 195; Oates, Str. F. x. p. 235; Kelham, Ibis, 1881, p. 529; Oates, B. Br. Burm. ii. p. 312.—The BURMESE PEAFOWL.**

Feathers of crest webbed throughout their whole length; head, neck and breast brilliant green; scapulars, tertiaries and lesser wing coverts uniform and unbarred rufescent; facial skin blue above and round the eyes; deep yellow on the remainder of the face; wing coverts violet blue, edged with pale greenish yellow; quills rufescent. Legs and feet dark horny brown; irides dark brown.

*Length*.—To end of true tail 40 to 48 inches; train projects beyond end of tail from 24 to 44; wing 16·75 to 19·75; tail from vent 15·5 to 17·5; tarsus 5·5; bill from gape 1·95 to 2·5.

*Hab*.—British Burmah, extending north as far as Chittagong; east through Siam to Cochin-China, and south down the Malay Peninsula.

### Gen. *Argusianus*.—*Rafn*.

Bill short and strong; upper mandible deflected at the tip, convex; nostrils basal lateral; head naked; tail long.

**1188. *Argusianus argus* (Linn.),** *Oates, B. Br. Burm.* ii. p. 313. *Phasianus argus*, *Linn., Syst. Nat.* i. p. 272. *Argusianus giganteus*, *Bl., B. Burm.* p. 148. *Argus giganteus*, *Elliot, Mon. Phas.* i. pl. 11; *Hume and Dav., Str. F.* vi. p. 427; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* i. p. 99, pl. *Argusa giganteus*, *Kelham, Ibis*, 1881, p. 530.—The ARGUS PHEASANT.

Head, checks, chin, and gular region naked and slaty blue; some bristly feathers on the occiput black, forming ear-like tufts; back of neck buffish, minutely spotted with black; lower neck, breast and upper back reddish chestnut, also minutely streaked and speckled with black; lower back and rump buffish, lighter on the rump; upper tail coverts dark vinaceous, thickly and closely variegated with ocelli. Wing coverts buffish, thickly freckled and speckled with dark brown; tertiaries longer than the primaries and beautifully ocellated; tail with the centre feathers much elongated; breast and upper abdomen ferruginous, finely vermiculated with zig-zag lines. The female is duller in colour and wants the elongated tertials and tail feathers, otherwise as in the male.

Legs and feet from pale to bright red.

*Length of the Male*.—68 to 70 inches; tail about 50; wing to end of primaries 18; tarsus 4·7; bill from gape up to 2. *Length of Female*.—About 30 inches; tail 12; wing 17; tarsus 3·6; bill from gape up to 1·7.

*Hab*.—Tenasserim in the extreme south, where it was observed by Mr. Davison in the forests about Malewoon and Bankasoon and the higher portions of Pakchan. It extends down the Malay Peninsula, and is found in Sumatra. According to Davison they are confined entirely to the evergreen forests. The male and female live quite solitarily. The males, Mr. Davison says, have a peculiar habit of selecting a piece of ground some six or eight yards square,

thoroughly cleaning it from all vegetation and rubbish, and taking up their quarters there. They, however, roost on trees at night. Food—fruit, ants, slugs, and insects generally.

### Gen. **Polyplectron**.—*Tem.*

Head sub-crested; bill less large and convex, more compressed, the tip deflected over the lower mandible; wing short; tail long; tarsus spurred.

**1189. *Polyplectron thibetanus* (Gm.),** *Elliot, Mon. Phas.* i. pl. vi.; *Hume and Dav, Str. F.* vi. pp. 432, 521; *Hume, Str. F.* viii. p. 110; *Hume and Marsh, Game Birds* i. p. 105 pl.; *Bingham, Str. F.* ix. p. 195; *Oates, B. Br. Burm.* ii. p. 315. *Pavo tibetanus*, *Gmel., Syst. Nat.* i. p. 731. *Polyplectron chinquis*, *Temm., Fig. et Gall.* ii. p. 363; iii. p. 675; *Blyth and Wald., B. Burm.* p. 148; *Inglis and Hume, Str. F.* v. p. 40.—The GREY PEACOCK-PHEASANT.

Crown of head subcrested, the feathers thick set; whole head and neck greyish brown, minutely freckled and stippled with brown; rest of upper plumage including the wings and tail dark brown, minutely freckled all over with greyish white; the feathers of the back, scapulars, tertiaries and wing coverts tipped with pale buff and each having near the tip a large roundish violet-blue spot, tinged with a coppery gloss next the buff tip. Each tail feather with a large oval metallic-green patch on each web, surrounded by a blackish and a buff ring; lower plumage pale ochraceous barred with brown. The *female* is similar, but duller in colour, the spots on the tail are small and inconspicuous, and those on the tail coverts altogether absent. (*Oates*.) Bill with the upper mandible and the tip of the lower one black; rest of the bill and facial skin pale yellow; irides white; legs and feet blackish; in the female dark plumbeous; the bill horny brown; and the facial skin pale dingy fleshy yellow. (*Davison*.)

*Hab.*—The dense hill forests of the Indo-Burmese region, its furthest limits northwards and westwards being the Buxa Doars and the outer slopes of the Bhootanese Himalayas. Eastwards it is not rare in suitable localities in the Eastern Doars, northern portions of Goalpara, Kamrup, and Durrang, and Hume adds possibly, further east. South of the Brahmaputra it occurs in the Garo, Khasia and Naga hills, in Sylhet, Cachar, Hill Tipperah, Chittagong, Arrakan, Pegu and Tenasserim as far south as Tavoy. A closely allied species, *P. bicalcaratum*, is said to have occurred at Mergui, but this requires confirmation. Hume, however, says that from the southern boundary of Tenasserim to the extreme south of the Malay Peninsula it certainly occurs, and that it may yet prove to occur in the higher hills of Southern Tenasserim.

### **Family**.—MEGAPODIDÆ.

Birds with large legs and feet, commonly known as Mound-birds; facial skin nude; head crestless; tail short; tarsi thick and strong; hind toe on the

same plane as the anterior one. Eggs large, laid in a mound of earth, heaped up by the parent birds.

Gen. **Megapodius**.—*Lin.*

Characters the same as those of the family.

**1190. *Megapodius nicobariensis***, *Blyth, J. A. S. Beng.* xv. p. ; *Hume, Str. F.* i. p. 82 ; iii. pp. 276, 499 ; *id.*, *Nests and Eggs Ind. B.* iii. p. 517 ; *Hume and Marsh., Game Birds Ind.* i. p. 110.—The NICOBAR MOUND BIRD or MEGAPODE.

Upper and lower surface of the body dull chocolate brown, darker on the back and lower abdomen, slightly tinged with rufescent on the lesser, median and greater wing coverts, and greyer on the breast ; all the feathers margined lunately with black ; primaries (3—4) yellowish, edged with black ; top of head greenish brown ; lores, orbital and aural region and visible portions of the skin of the neck from a light somewhat dull cherry red to a bright brick red. Legs and feet dark greenish horny ; scuta somewhat paler ; soles of the feet pale carneous ; knee brick red ; bill light greenish horny.

*Length*.—14·5 to 17 inches ; wing 8·5 to 9·5 ; tail 2·75 to 3·5 ; tarsus 2·6 to 2·75 ; bill at front 0·94 to 1·1.

*Hab.*—The central and southern portions of the Nicobar Islands. According to Hume, the Nicobar Megapode never wanders far from the seashore, and throughout the day keeps in thickish jungle a hundred yards or so above water mark. They come out generally at dusk and in the early dawn. Generally met with in pairs, coveys and flocks of from thirty to fifty, and Mr. Hume adds that they are unsurpassed. "The flesh is white, very sweet and juicy, loaded with fat, is delicious, a sort of *juste milieu* between that of a fat Norfolk turkey and a fat Norfolk pheasant." The eggs too, he says, are quite equal if not superior to those of the Peafowl. Eggs, 10—18 in number, elongated ovals, pointed towards one end, whitish, of a chalky texture, varying in size from 3·01 to 3·4 in length and from 1·9 to 2·25 in breadth.

**Sub-Family**.—PHASIANINÆ.

Tail typically long, with the central feathers of great length ; plumage rarely ocellated ; head more or less crested. Includes (*Monaul*), the Horned, Gold and Silver, Snow and Blood pheasants, Firebacks and Jungle fowl.

Gen. **Crossoptilon**.—*Hodgs.*

Bill strong, broadly convex ; upper mandible longer than and overlaying the lower mandible ; cere and facial skin nude ; nares basal ; wing with the 6th quill longest ; tail ample, of 18 feathers ; upper tail coverts long, and covering the tail feathers ; tarsi nude, scutate before and behind ; males only with a spur.

**1191. *Crossoptilon thibetatum*, Hodgson, *J. A. S. B.* 1849; *Hume and Marsh., Game Birds Ind.* p. 115, pl.; *Tickell, Field* iii., 1886, p. 170. *Crossoptilon drouyni*, *Verr.*—HODGSON'S EARED PHEASANT.**



Head of *Crossoptilon thibetatum*.

Top of the head black, the feathers narrow, short, erect, velvety and thick set; cheeks and facial skin nude and red; wings short, stiff, bowed and rounded; quills blackish on their outer webs; lesser and median wing coverts greyish ash, tinged with blue; upper plumage bluish hoary, paler and tinged with yellowish on the lower surface; alar and caudal plumes dusky or black, glossed more or less with changeable blue; bill dull ochreous red. (*Hodgson.*)

*Length.*—38 to 40 inches; tail 19 to 20; wings 12'5; tarsus 4'12; bill 1'62.

*Hab.*—Nepaul. Mr. Hume figures this bird in his "Game Birds of India," and though he says it could hardly claim to be included in the Indian Avifauna, I have (owing to the rarity of the species, and the remarks of Colonel Tickell in a note by Mr. Hume,) given a description of it in the event of the bird being found, as Colonel Tickell surmises, nearer Nepaul.

### Gen. **Lophophorus**, *Temm.*

Head crested, the shafts of the feathers bare except at the tip; orbits bare; bill somewhat lengthened, the tip deflected; tarsus spurred; tail short. Plumage rich metallic green and gold.

**1192. *Lophophorus impeyanus* (*Lath.*), *Gould, Cent. Him. Birds*, pls. 60, 61; *id.*, *B. Asia* pt. ii. pl. 7; *Ferd.*, *B. Ind.* iii. p. 510, No. 804; *Hume and Marsh., Game Birds of Ind.* i. p. 125.—THE MONAUL PHEASANT.**

Head, including the crest, also the throat, brilliant metallic green; back of the neck brilliant iridescent purple, passing into bronzy green, and all with a golden gloss; upper back and wing coverts, also the rump and upper tail coverts richly glossed with purple and green, the latter colour prevailing on the wings and furthest tail coverts. Middle of back white; quills black; tail cinnamon rufous; whole lower surface black, glossed on the throat with green and purple, dull and unglossed elsewhere. Bill dark horny; naked orbits blue; irides brown; legs dull ashy green. (*Ferd.*)



*Length.*—27 to 29 inches; wing 11 to 12·2; tail from vent 9·5 to 10·5; tarsus 2·7 to 3; bill from gape 1·9 to 2. Females are smaller. The female has the chin and throat white, the rest of the body pale buffy brown, with dark brown spots, bars and undulations; secondaries barred black and rufous; tip of tail and external margin of tail coverts whitish. Bill blackish; legs dusky greenish.

*Length.*—24 to 26 inches; wing 10·3 to 11; tarsus 2·65 to 2·7.

*Hab.*—The western borders of Cashmere to the more western portions of Bhootan, and throughout the Himalayas, as far east as Sikkim. Jerdon says in Sikkim it is not found at a lower elevation than 10,000 feet. Common about Mussoorie at one time, and also about Simla. Breeds throughout the forest-clad ranges of the Himalayas during May and June. The eggs are laid in a bare depression in the ground under the shelter of some overhanging rock, or the massive root of some large tree. The eggs, 4 to 6 in number, are long ovals, a good deal compressed at one end; the ground colour is buffish white thickly and coarsely freckled all over, especially in the middle, with deep reddish brown. Size from 2·41 to 2·69 in length by 1·7 to 1·89 in breadth.

**1193. *Lophophorus Sclateri*, *Jerd.*, *Ibis*, 1870, p. 147; *id.*, *J. A. S. Beng.* 1870, p. 61; *Sclater*, *P. Z. S.* 1870, p. 162, pl. xiv.; *Elliot*, *Mon. Phas.* i. pl. xx.; *Hume*, *Game Birds* p. 135, pl. *Lophophorus* (*Chalcophasis*) *Sclateri*, *G. R. Gray*, *Hand List B.* ii. p. 261. *Chalcophasis Sclateri*, *Gould*, *B. Asia* vi. pl. 70.—SCLATER'S CRESTLESS MONAUL.**

Top of head covered by a short recurved green crest; occiput, cheeks, throat and entire under parts deep velvety black; back of neck red, becoming orange yellow on the lower part; back and wings metallic green, with blue and purple reflections; shoulders reddish bronze; primaries brownish black; rump white with mesial black lines; upper tail coverts white; tail deep chestnut tipped broadly with white; facial skin deep blue, with short, black hair-like feathers; legs and feet brown; bill greenish horn.

*Length.*—27 inches; wing 12·4; tail 9·0; bill at front 1·3; from gape 1·95; tarsus 3·2; irides brown.

*Hab.*—East and South-East of Sadiya. Nothing is known of its habits.

### Gen. *Ceriornis*.—Swainson.

Bill rather short; head with two small erectile fleshy horns behind the nude orbits; crown crested; throat with extensile gular wattles; tail short, broad, of 18 feathers; tarsi short.

**1194. *Ceriornis satyra* (*Linn.*), *Gould*, *Cent. Him. B.* pl. 62; *Jerd.*, *B. Ind.* iii. p. 516, No. 805; *Hume and Marsh.*, *Game Birds* i. p. 137.**

*Meleagris satyra*, Linn., *Syst. Nat.* i. p. 717. *Satyra Lathamii* (Gray), *Hardwick, Ill. Ind. Zool.*, pl. 49, 51.—The SIKKIM HORNED PHEASANT OR INDIAN CRIMSON TRAGOPAN.

Forecrown, nape, and sides bordering the nude parts black; crest formed of slender hair-like feathers black basally and red terminally; back, rump, wings and upper tail coverts brown, finely barred with black and with white ocelli; wing coverts and sides of the rump brown, the ocelli on a maroon-red spot at the tip of each feather; shoulder of wing bright fiery red; tail black, barred narrowly with rufous; sides and back of the neck, the breast, and under surface of the body rich crimson red, with white, black-edged spots. Bill brown; orbits, horns and nude parts fine blue; wattles blue, with crimson bars when excited; irides deep brown; legs yellowish brown.

*Length of Males*.—26·5 to 28·5; wing 10 to 10·6; tail 10 to 11·5; tarsus 3·25 to 3·75; bill from gape 1·4 to 1·5. *Females*—21·5 to 23·75; wing 8·5 to 9; tail 8 to 10; tarsus 3 to 3·25; bill from gape 1·25 to 1·45.

*Hab.*—The higher wooded ranges of the Central and Eastern Himalayas, westwards to Kumaon and the western portions of Garhwal. Found in suitable localities throughout Nepaul and Sikkim and well into Phootan. Occurs also in the Dafia Hills; also in the vicinity of Darjeeling. Breeds at elevations of from 9,000 to 12,000 feet in the forests that lie below the snow. Eggs are like large hen's eggs, white, freckled with dull lilac.

**1195. *Ceriornis melanocephalus*** (Gray), *Gould, Cent. Him. B.* pls. 63, 64, 65; *Ferd., B. Ind.* iii. p. 517, No. 806; *Hume and Marsh., Game Birds* i. p. 143. *Phasianus nipalensis* (Gray, the female), *Hardw., Ill. Ind. Zool.* i. pls. 46, 47, 48 and 2 pl. 40; *Elliot, Mon. Phas.* i. pl.—The SIMLA HORNED PHEASANT OR THE WESTERN TRAGOPAN.



Head of *Ceriornis melanocephalus*.

Head black, crest tipped with red; nape, the back and sides of neck dark red; back and upper parts dark brown, minutely barred irregularly with black, each feather with a round white spot on a black ground; shoulder of wing dark red; quills blackish, mottled and barred with brown; some of the wing coverts with dusky olive spots; tertiaries mottled like the back and with the scapulars have a large white spot; upper tail coverts lengthened, the lateral

feathers with a large fulvous tip edged with dull black and white spotted; tail black, unspotted towards the tip, but barred with white, brown for the greater part of its length; beneath, the throat and neck below the wattle vivid scarlet, passing into flame colour and yellow on the lower part of the neck; breast and lower parts black, dashed with dull red, and each feather with a round white spot; thigh coverts mottled black and brown, paler and yellowish near the joint. Bill blackish; irides hazel brown; orbits bright red; fleshy horns pale blue; gular wattles purple in the middle, spotted and edged with pale blue and fleshy on the sides; legs and feet fleshy.

*Length*.—27 to 29 inches; wing 11·25; tail 10·5 to 11; tarsus 3.

The female has the head and all the upper parts mottled with dark and light brown and blackish with small pointed streaks of pale yellow; quills and tail dark brown, minutely mottled and barred; under surface light ashy brown, powdered with blackish and marked with irregular spots of white; fleshy horns and wattles absent.

*Hab*.—Western borders of Nepaul to the extreme N.-W. Himalayas. It is found about Simla and Mussoorie, but more abundant near Almora. It is not a very rare species, and is very easily reared in captivity, as well as easy to shoot. They feed chiefly on berries, but insects also form part of their food. They begin to pair in April. Eggs have been obtained in May at from 8,000 to 11,000 feet elevation. They are, according to Hume, elongated ovals considerably compressed towards the small end, and about the size of the egg of the Monaul. The shell is devoid of gloss, and vary in colour from a pale *café au lait* to a dull reddish buff. Size from 2·4 to 2·55 by 1·68 to 1·72.

*Ceriornis Blythi*, *Jerd.*, *J. A. S. Beng.*, 1870, p. 60; *Gould*, *B. Asia* vii. pl. 47. This is another species of which much is not known: It is said to occur in the Naga and Assam hills: the forecrown and occiput is black; lores, orbital region, cheeks, chin, throat and nude parts adjoining golden yellow; back of the head, neck all round and breast bright brick red or lake; a black post orbital and gular band; upper surface of the body rich maroon red, with white ocelli on a black ground at the tip of each feather; flanks more yellowish; belly grey; tail dark brown.

### Gen. *Ithaginis*—*Wagler*.

Bill short, stout; tail of 14 feathers; tarsus of male with several spurs; head sub-crested; neck feathers elongated.

**1196. *Ithaginis cruentus*** (*Hardw.*), *Gould*, *B. Asia*, pt. iii. pl. 3; *Jerd.*, *B. Ind.* iii. p. 522, No. 807; *Elliott*, *Mon. Phas.* i. pl. 10; *Hume and Marsh.*, *Game Birds* i. p. 155. *Phasianus cruentus*, *Hardw.*, *Linn.*

*Trans.* xiii. p. 237. *Phasianus Gardneri*, *Hardw.* (the female).—The GREEN BLOOD PHEASANT.



Head of *Ithaginis cruentus*.

Forehead black ; crown buff ; crest dull grey, with a mesial streak of buff ; lores and cheeks, also a broad ring round the red orbital region black ; base of the bill, chin and throat blood red ; lower throat brownish to black, with a mesial stripe of greenish buff down each feather ; ear-coverts black, with buffish striæ ; hind neck and upper surface of the body dark grey, each feather striped mesially with buff, which is again bounded by black ; wing coverts the same ; tail grey, passing into greyish-white at the tips ; the shafts white and the basal three-fourths of the feathers broadly margined with blood red ; breast, sides of the abdomen and flanks pale green with lighter shafts ; breast feathers with a blood red spot near the centre of either margin ; centre of abdomen, thighs and vent dark brownish grey, with a greenish mesial stripe bounded by black ; under tail coverts deep blood red, tipped with pale yellow.

Bill brownish, black at tip and red at the base ; irides brown ; legs and feet coral red.

*Length*.—16 to 17 inches ; wing 8·5 ; tail 6·5 ; tarsus 2·75.

The *female* has the forehead, cheeks and chin, bright rusty yellow ; upper parts ferruginous brown mottled very finely with blackish ; first primary plain dark brown, the others and the tail dark brown, freckled finely with blackish ; lower parts brighter ferruginous brown than the back ; under tail coverts and vent mottled with brown.

*Hab.*—S.-E. Himalayas, in Nepaul and Sikkim, more abundant in the latter, affecting ranges from 10,000 to 14,000 feet. According to Hodgson they are not rare. In November and December numbers are caught. They ascend and descend with the snow, and are easily captured, being fearless and stupid.

Gen. **Pucrasia**—Gray.

Bill short; head double-crested; tarsus spurred; toes slender, long; tail long, of 16 feathers.

**1197. *Pucrasia macrolopha* (Lesson), Gould, Cent. Him. B. pls. 69, 70; id., B. Asia, pt. vi. pl. 4; Jerd., B. Ind. iii. p. 524; Elliot, Mon. Phas. 1 pl.; Hume and Marsh., Game Birds i. p. 159. *Pucrasia nipalensis*, Gould, Cent. Him. B. pl. 6; Hardw., Ill. Ind. Zool. pl. 40; Hume, Str. F. vii. p. 428; Hume and Marsh., Game Birds i. p. 165. *Pucrasia castanea*, Gould, B. Asia, pt. vi. pl. v.; Hume, Str. F. v. p. 138; vii. pp. 124, 428.—The KOKLASS PHEASANT.**



Head of *Pucrasia macrolopha*.

Head glossy dark green, the crown and medial crest ashy brown; the lateral feathers of the crest dark green and from 4 to 4·2 inches long; an oblong patch of white on each side of the neck; upper surface of the body light ashy, each feather with a mesial streak of black; wing coverts light chestnut brown, the feathers with black patches; upper tail coverts light ashy; tail chestnut brown, tipped with black and narrowly edged with whitish; chin and throat black, also the upper edge of the oblong white neck patch; breast and centre of abdomen deep chestnut; flanks ashy; vent chestnut, tipped with white. Bill black; irides dark brown; legs and feet ashy.

*Length*.—24 inches; wing 10; tail 12; tarsus 2·5.

The plumage of the female is pale yellow brown above, variegated and banded with dark brown chestnut, and pale yellowish; chin and throat yellowish white; under surface of the body yellowish-chestnut, with dark brown markings, paler along the abdomen and darker on the flanks.

*Length*.—20 inches; wing 8·1 to 8·6; tail 7 to 7·5; tarsus 2·2 to 2·5.

Irises deep brown; bill dusky black, yellowish horny at the tip of upper and base of lower mandible; legs and feet dusky plumbeous.

*Hab.*—N.-W. Himalayas, from the west of Nepaul to beyond Simla, extending probably into the Bhootan Himalayas. It is said to be common to the whole of the wooded regions from an elevation of about 4,000 feet to

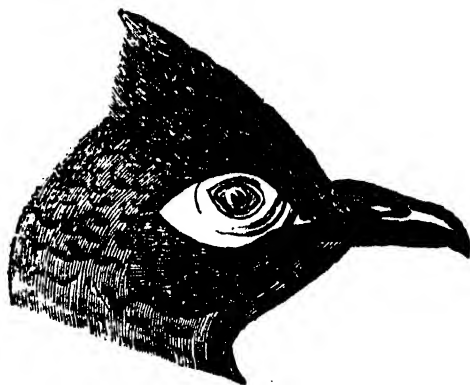
nearly the extreme limits of forest, but more abundant in the lower and intermediate ranges, where its favourite haunts are wooded ravines and hill sides where oak and chestnut are plentiful. It is found singly or in pairs. There is much difference of opinion as to whether it is good eating, but all agree that it affords good sport. Hume says the spot for Koklass is either some depression or saucer-like valley, or some place in a gorge where a horizontal plateau is thrown out inside the gorge. October and November are said to be good months about Mussoorie for Koklass.

It feeds chiefly on leaves and buds, also roots, grubs, acorns and berries. Breeds in May throughout the Himalayas in all well-wooded localities within the limits above indicated. Eggs, 6—9, oval, more or less pointed towards the small end; of a rich pale buff colour, densely and thickly speckled and spotted, or boldly and thinly blotched and splashed with deep reddish brown. They vary in size from 1·85 to 2·29 in length, and from 1·39 to 1·57 in breadth.

Gen. **Phasianus**.—*Linn.*

Tail long, cuneate, of 18 feathers; cheeks naked; tarsi spurred in the males.

**1198. *Phasianus Wallichii* (Hardw.), Gould, Cent. Him. B.** pl. 68; *Ferd., B. Ind.* iii. p. 527; *Hume and Marsh., Game Birds* i. p. 169; *Elliott, Mon. Phas.* i. pl.—The CHEER PHEASANT.



Head of *Phasianus Hardwickii*.

Head with a crest composed of a few long hair-like feathers and dark ashy in colour; neck pale ashy, barred narrowly with dusky black; back and scapulars and rump pale reddish chestnut, barred with bluish black; tail with the two long middle feathers pale yellow, broadly barred and speckled with black; the rest barred with pale yellow, black, and dark chestnut; chin

soiled buffish; throat and breast yellowish ashy, with a few broken black bars; abdomen dusky; wing coverts yellowish ash, with curved black bars and shining golden spots in some feathers; primaries dusky, with a few pale yellow bars; thigh coverts and vent yellowish chestnut marked with dusky. Bill pale horny; nude orbits bright red; irides yellowish hazel; legs and feet brown.

*Length*.—34 to 40 inches; wing 9·6 to 10·4; tail 20 to 23·0; tarsus 2·8 to 2·95; bill from gape 1·35 to 1·45. The females are 24 to 29·5 in length, with a wing of 8·8 to 9·5, and tail of 13·5 to 15·5.

*Hab*.—W. and N.-W. Himalayas, Nepal, Garhwal, Dehra Dhoon, and about Chamba. "Mountaineer," according to Jerdon, says that it is an inhabitant of the lower and intermediate ranges, seldom found at very high elevations and never approaching the limits of forest. They are confined to particular localities, and not like other pheasants scattered indiscriminately over almost every part of the regions they inhabit. Grassy hills, scattered oak forests, sites of deserted villages and long grass in precipices are the haunts of this species. In the interior they are often found in the immediate vicinity of villages in flocks of 5 and 6. During the day they sit concealed, and only issue out in the morning and evening to feed. They run fast and lie very close and are flushed within a few yards. "Mountaineer" says he has knocked them over with a stick and even taken them with his hand; they feed chiefly on roots, grubs, insects, seeds and berries. The Cheer breeds throughout the lower ranges of the Himalayas during April, May and June, making a nest in grass or grass tufts. The eggs are of a pale stone colour, almost devoid of markings, but generally there are some few specks of red at one end. Size, from 2·05 to 2·22 inches  $\times$  1·4 to 1·56.

#### Gen. **Euplocamus**.—*Temm.*

Head more or less crested; orbits naked, red; plumage glossy black and white; feathers of the neck and breast hackled; tail moderately long, of 16 feathers, divaricated, raised in the centre, as in Jungle fowl, and held demi-erect, the feathers curving outwards and drooping. (*Jerd.*)

**1199. *Euplocamus albocristatus*** (*Vigors*), *Gould, Cent. Him. B. pls.* 66, 67; *Hume, Str. F.* iv. 42; *id.*, *Str. F.* vii. p. 429; *Hume and Marsh., Game Birds* i. p. 178. *Phasianus Hamiltoni* (*Gray*), *Hardw., Ill. Ind. Zool.* i. pl. 41. *Gallophasis albocristatus* (*Vigors*), *Jerd., B. Ind.* iii. p. 532.—THE WHITE-CRESTED KALIJ PHEASANT.

A long crest of decomposed feathers white; head, neck, wings and tail glossy bluish-black; lower back dull white; *rump and upper tail coverts broadly tipped white*; throat and breast greyish white, the feathers sharp-pointed; abdomen and vent dark grey. Bill greenish white, dusky at the tip; irides orange brown; nude orbits bright scarlet to deep crimson, dotted here and there with tiny tufts of abortive black feathers; legs and feet livid white

with a purplish or brownish tinge. The *female* is of a light brown colour throughout, each feather being tipped with pale whitish brown; chin whitish; lateral tail feathers dark brown.

*Length—Males*—24 to 29 inches; wing 8·7 to 10; tail 10·2 to 13; tarsus 2·9 to 3·1; bill from gape 1·3 to 1·55. *Females—Length*—20 to 23 inches; wing 8 to 8·3; tail 7·8 to 9.

*Hab.*—N.-W. Himalayas, as far as Nepaul in the westernmost portions. Hume says, throughout the fairly-wooded lower and middle ranges of the Himalayas from Kumaon to Hazara; also occurs in the Siwaliks, in some places very abundantly. Usually three or four are found together, and sometimes as many as a dozen. It feeds on roots, grubs, insects, seeds and berries, and the leaves and shoots of shrubs. Thick clumps of bushes near the banks of rivers are its favourite haunts. It breeds everywhere in the Himalayas, according to Hume, south of the first snowy range from the borders of Afghanistan to those of Nepaul; also in the Dhoon and at Simla from April to June. There is no regular nest, except a pad, with a slight depression, made of leaves, fine grass and coarse roots. Eggs, 9 to 14 in number, oval, moderately elongated, a good deal pointed towards one end, glossy and closely pitted with minute pores. In colour they vary from a pale creamy buff to a rich reddish buff, often thickly speckled with minute white spots. Size from 1·85 to 2·03  $\times$  1·25 to 1·52.

**1200. *Euplocamus leucomelanus* (Lath.), Hume, *Str. F.* vii. p. 428; *id. and Marsh., Game Birds Ind.* i. p. 185. *Phasianus leucomelanus*, Lath., *Ind. Orn.* ii. p. 633.—The NEPAUL KALIJ.**

Differs from *albocristatus* in having a black crest and more narrowly white tipped rump and upper tail coverts. Bill greenish horny; irides dark brown; orbital skin fine crimson red and papillated; legs and feet pale brownish.

*Length.*—23 to 26 inches; wing 8·7 to 9·2; tail 10·9 to 12·3; tarsus 2·8 to 3·05; bill from gape 1·25 to 1·37. *Females* 19·3 to 20·5; wing 7·8 to 8·5; tail 7·3 to 8·5; tarsus 2·3 to 2·9; bill from gape 1·2 to 1·3.

*Hab.*—Nepaul, ranging just inside the limits of British India.

**1201. *Euplocamus melanonotus* (Blyth), *Ferd., B. Ind.* iii. p. 534; *Hume, Str. F.* v. p. 42; *id.*, p. 124; *id. and Marsh., Game Birds Ind.* i. p. 192.—The BLACK-BACKED KALIJ.**

Differs from *leucomelanus* in having the rump and upper tail coverts entirely black. Bill, legs and feet as in the last.

*Length.*—21 to 25 inches; wing 8·9 to 9·5; tail from vent 9·5 to 12·3; tarsus 3·05 to 3·2; bill from gape 1·28 to 1·36. *Females—Length.*—18 to 21 inches; wing 8·1 to 8·8; tail 7·5 to 8·6; tarsus 2·7 to 2·9; bill from gape 1·15 to 1·25.



*Hab.*—Sikkim, and the Eastern parts of Bhootan. According to Jerdon it is the only Pheasant common in Darjeeling at all elevations between 2,000 and 7,000 feet. Breeds during March, April, and May. Eggs, 8—10 in number, similar to those of other species. Size 1·79 to 2 inches by 1·4 to 1·54.

**1202. *Euplocamus horsfieldi*** (*G. R. Gray*), *Hume, Str. F.* v. p. 42; vii. p. 429; *Hume and Marsh., Game Birds B. Ind.* i. p. 197.—The BLACK-BREASTED KALIJ.

Differs from *albocristatus*, *leucomelanus* and *melanonotus* in having the breast black, with rounded instead of lanceolate feathers, and the rump and upper tail coverts broadly tipped with white. Bill greenish horny, paler at tip, dusky towards the base; nude orbital skin crimson; irides reddish brown; legs and feet plumbeous.

*Length, Males.*—23 to 24 inches; wing 9 to 10; tail 9 to 10·75; tarsus 3·2 to 3·25; bill from gape 1·37 to 1·5.

*Length, Females.*—21 to 22·5 inches; wing 8·5 to 8·9; tail 7·75 to 8·5; tarsus 3 to 3·05; bill from gape 1·15 to 1·3.

*Hab.*—Cachar and around the bases of and up to four thousand feet elevation on the Khasia and Garo hills; thence eastwards in suitable localities right up the valley of Assam to beyond Sadiya. Has been met with in Eastern Bhootan and in the lower ranges of the Daffa hills, also in Tipperah and Northern Chittagong. Dilkusha, Sylhet and Cachar are districts in which they are fairly abundant. (*Hume.*) Breeds in April and May. Eggs of the usual type.

**1203. *Euplocamus lineatus***, *Elliot, Mon. Phas.* ii. pl. 23 (pt.); *Hume, Nests and Eggs Ind. B.* p. 525; *id., Str. F.* iii. p. 165; *Anders., Yun. Exped.* p. 669 (part); *Hume and Dav., Str. F.* vi. p. 436; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* i. p. 205, pl.; *Bingham, Str. F.* ix. p. 195; *Oates, Str. F.* x. p. 236; *Oates, B. Br. Burm.* ii. p. 316. *Phasianus lineatus*, *Lath. in Vigors, P. Z. S.* 1831, p. 24. *Nythemerus lineatus*, *Blyth and Wald., B. Burm.*, p. 149. *Gennæus lineatus*, *Oates, Str. F.* v. p. 164.—The LINEATED SILVER PHEASANT.

Whole head, including crest, also the chin, throat and lower plumage black; sides of breast and body streaked with white; forehead and feathers above the red facial skin stippled with white dots; sides of the head and neck, also the hindneck and the whole of the upper plumage and wing coverts black, finely and closely vermicellated with white; wings and tail the same, but the wavy bars of white broader; central pair of tail feathers almost entirely white on the inner webs. Younger males have more white streaks on the lower plumage extending to the whole breast and abdomen. The *female* has the forehead, crown and crest olive brown tinged with rufous; chin and throat grey; sides and back of the neck olive brown, streaked with white; front of the neck

pale chestnut with white streaks, the remaining lower plumage rich chestnut streaked with white; base of the hind neck and the back olive brown with white arrow-head-shaped marks; wings, coverts, lower back, rump and the shorter upper tail coverts olive brown, the feathers edged paler; longer upper tail coverts yellowish white, barred with black; six outer pairs of tail feathers blackish, broadly barred with white, each white bar having another black bar within it; between the white bars there are marks of chestnut; the next pair similar, but the terminal half of the inner web yellowish, vermiculated with black; central pair wholly yellowish white on inner web, the outer web vermiculated with black. In the male the irides are reddish hazel; bill green, turning to dusky at the tip and at the base of the culmen; bare skin of the head rich crimson; legs plumbeous brown; claws pale horn; spur dark brown. (*Oates.*)

*Length.*—27 inches; wing 9·3; tail 12·5; tarsus 3·2; bill from gape 1·35.

*Female, Length.*—20 inches; wing 8·5; tail 7·5; tarsus 3; bill from gape 1·3.

*Hab.*—British Burmah. Confined to Pegu, Tenasserim, north of Tavoy, the south-western portions of Independent Burmah, and the N.-W. portions of Siam. Hume says it is not a bird of high elevations. It is numerous at from 1,000 to 3,000 feet. It is almost omnivorous, and feeds according to season and locality on all kinds of berries, young leaves, green shoots and flower buds. The breeding season commences in March and is over by the end of April. The nest is merely a hollow scratched in the ground and thinly lined and sprinkled with dry leaves, placed under a shrub, or at the foot of a large tree. Eggs, 7—8, of a pinkish stone colour, minutely pitted all over. Size, 1·81 to 2·03 by 1·4 to 1·52 in width.

**1204. *Euplocamus Cuvieri* (Temm.),** *Oates, Str. F.* iii. p. 343; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* i. p. 201, pl.; *Sanderson, Str. F.* viii. p. 493; *Oates, B. Br. Burm.* ii. p. 318. *Lophophorus Cuvieri* (Temm. *Pl. Col.*), *Hume, Str. F.* iii. p. 166 (note). *Nycthemerus Cuvieri*, *Blyth, B. Burm.* p. 149.—THE ARRACAN SILVER PHEASANT.

Like *E. lineatus*, but with no white streaks on the lower plumage, the breast is strongly tinged with deep blue, and a tinge of blue runs all through the upper plumage; rump and upper tail coverts with broad white margins; vermiculations on the upper plumage are not so frequent nor so white, and there is less white on the tail. The *female* is also like the female of *E. lineatus*, but differs in having the feathers of the upper plumage margined paler; the white stripes on the lower surface are reduced in breadth, are buffy in colour, and are almost entirely confined to the breast; the whole back and wings are a more or less rich rufous-olivaceous-brown everywhere, closely freckled with blackish brown; tail rufous, pale on the central tail feathers, deep chestnut on the four exterior ones, and freckled only on the inner webs.

*Length*.—25 inches; tail 11·2; wing 9·3; tarsus 3·4; bill from gape 1·6. The *female*—wing 8·5; tail 8·8.

*Hab.*—Arracan Hills, extending northwards to Chittagong. Habits same as last.

**1205. *Euplocamus Andersoni*, Elliot, P. Z. S. 1871, p. 137; Anderson, Yunnan Exped., p. 670, pl. liii; Elliot, Mon. Phas. ii. pl. 22; Oates, B. Br. Burmah, ii. p. 319. *Euplocamus Crāwfurdi*, Hume and Dav., Str. F. vi. pp. 437, 521; Hume, Str. F. viii. p. 110; Hume and Marsh., Game Birds i. p. 203, pl.—ANDERSON'S SILVER PHEASANT.**

Upper parts black, each feather having three or four white irregular lines, running parallel to and meeting towards the edges; secondaries black, with broken irregular black lines, running lengthwise with the feather; feathers of the rump like the back, but fringed with white, which overlaps the feather beneath and gives this part a beautiful silvery appearance; top of head, lengthened crest and entire under parts deep rich blue; tail moderately long, middle feather white, thickly covered with rather broad irregular black lines, these most numerous on the outer web and towards the base, becoming less on the inner web, and disappearing entirely at the tip and on the edge of inner web; rest of tail feathers black, with fine broken lines of white, these disappearing towards the tips; primaries dark brown, marked with white lines. (*Elliott*.) Hume says the characteristic points in which typical *E. Crāwfurdi* = *E. Andersoni* differs from *E. lineatus* are, first, the much coarser and bolder character of the markings of the upper surface, which are all longitudinal and more or less parallel to the margins of the feathers, which are entirely free from the fine more or less transverse markings or mottlings characteristic of *E. lineatus*; second, in the whole of the central tail feathers, except just at the tip and margins of the inner webs, being boldly variegated black and white, instead as in *E. lineatus* almost the whole of the inner webs and the terminal half at any rate, of the outer webs being white or sullied white free from markings, and such markings as exist on the basal portions being fine. Bill pale bluish horny; facial skin deep crimson; legs and feet dark pinkish fleshy; irides brown. (*Davison*.)

*Length*.—30 inches; tail 13·5; wing 11·5; tarsus 3·62; bill from gape 1·55.

*Hab.*—Tenasserim proper, in the hills at the N.-E. extremity. Dr Anderson also procured specimens on the confines of Upper Burma and Yunnan.

**1206. *Euplocamus Vieilloti* (G. R. Gray), Sclater, P. Z. S., 1863, p. 118; Hume and Dav., Str. F. vi. p. 438; Hume, Str. F. viii. p. 110; Kelham, Ibis, 1881, p. 532; Oates, B. Br. Burm. ii. p. 320. *Gallophasis Vieilloti*, G. R. Gray, Gen. B. iii. p. 498. *Euplocamus ignitus*, Elliot, Mon. Phas. ii. pl. 26 (part); Blyth, B. Burm., p. 149; Elliot, Ibis, 1878, p. 124 (part).—VIEILLOT'S FIRE-BACK PHEASANT.**

General colour of the plumage, including crest, metallic violet blue; sides of the body streaked with white; centre of abdomen and vent, secondaries and lateral tail feathers black; lower back and rump glistening fiery chestnut; primaries brown; central pair of tail feathers white, the next pair white, with the basal half of the outer web brown. The *female* has the whole upper plumage chestnut; the chin and throat albescent; the front and sides of the neck streaked with white; the head, hind neck and upper back plain; all the other parts finely vermiculated with black; breast black, the feathers with chestnut tips and white margins; upper abdomen, sides of the body and thighs black, the feathers margined with white; lower abdomen and vent white; under tail coverts chestnut. Bill whitish to horny brown; facial skin smalt blue; legs and feet vermilion red; irides pale red.

*Length*.—27·5 to 29 inches; tail 10 to 10·5; wing 10·75 to 12·12; tarsus 4·25 to 4·4; bill from gape 1·6 to 1·8. *Female*—23 to 24 inches; tail 7·5 to 9; wing 9·7 to 10·75; tarsus 3·5 to 3·75; bill from gape 1·6 to 1·7.

*Hab.*—Tenasserim, in the south, extending down the Malay Peninsula. According to Davison it frequents thick evergreen forests in small parties of five or six, feeding there on berries, tender leaves, and insects. Hume says they appear to breed in the monsoon. The only egg he obtained was laid by a captured hen in July. The egg is simply like a large game fowl's egg.

### Sub-Family—GALLINÆ.

Head generally furnished with fleshy crests and wattles, crested or sub-crested; tail of 14 feathers, more or less divaricate, and held demi-erect; upper tail coverts of males elongated and pendant.

### Gen. *Gallus*.—Linn.

Head furnished with a fleshy crest; face and wattles nude; tarsus in males spurred; other characters as in the sub-family.

**1207. *Gallus ferrugineus* (Gm.),** *Ferd.*, *B. Ind.* ii. p. 236; *Elliot*, *Mon. Phas.* ii. pl. 32; *Hume*, *Nests and Eggs Ind. B.* p. 528; *id.*, *Str. F.* iii. p. 171; *Blyth*, *B. Burm.* p. 148; *Oates*, *Str. F.* v. p. 104; *Hume and Dav.*, *Str. F.* vi. p. 442; *Hume*, *Str. F.* viii. p. 111; *Hume and Marsh.*, *Game Birds* i. p. 217, pl.; *Bingham*, *Str. F.* x. p. 195; *Oates*, *Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 322. *Tetrao ferrugineus*, *Gm.*, *Syst. Nat.* i. p. 761.—  
THE COMMON JUNGLE FOWL.

Head and neck rich golden, becoming yellow on the longer hackles which cover the back; back, lesser wing coverts, and lower plumage black; tertiaries black, the greater coverts also black with a bluish tinge; median wing coverts glistening maroon chestnut, also a band connecting them with the lower back, which is followed by a broad band of rich purplish brown; lower rump and upper tail coverts rich golden; tail black, glossed with greenish.

The *female* has the crown rufous, the shafts darker; hackles of the neck dark brown edged with yellow; upper plumage and wing coverts yellowish brown mottled with black, and the shafts yellowish; primaries and secondaries dark brown, the outer webs of the latter and both webs of the tertiaries mottled with yellowish brown; under surface of the body reddish brown with paler shaft streaks, and most of the feathers stippled with blackish. (*Oates.*) Bill dark brown, reddish towards the base; under parts dull red; irides orange red; legs and feet purpureous.

*Length.*—25 to 28 inches; wing 8·12 to 9·5; tail 11·25 to 14·3; tarsus 3 to 3·12; bill from gape 1·19 to 1·37. Females do not exceed 18·5 in length, and have a wing of from 7·1 to 7·5.

*Hab.*—Himalayas, in the lower ranges, the Dhoons, Terails, and sub-montane districts. The whole of Assam, Oudh, Central and N.-W. Provinces, Eastern Bengal, including the Sunderbuns, Arracan, Pegu, Tenasserim; all the hilly portions of Western Bengal and Northern and Central Provinces. Southwards and eastwards, it occurs north of the Godavery, Orissa, the Tributary Mehals, Ganjam, Vizagapatam, Joonaghur, Nowagur, Jeypore. There is no description of jungle from which it is absent. In the dry, level, alluvial plains and semi-deserts of Upper India it is absent. It is very partial to bamboo jungle, broken ground and ravines with dense vegetation. It breeds from January to July, according to locality. Eggs, a pale yellowish, *café au lait* colour, 8 to 12 in number.

**1208. *Gallus Sonnerati*, Tem., Pl. Col. 232, 233; *Jerd., B. Ind.* iii. p. 539, No. 813; *Elliot, Mon. Phas.* ii. pl. 34; *Hume, Nests and Eggs Ind. B.* p. 531; *id., Str. F.* iv. pp. 5, 404; *Hume and Marsh., Game Birds* i. p. 231, pl.—The GREY JUNGLE FOWL.**

Head, neck and hackles blackish grey, the feathers with white shafts and two yellow spots; wing coverts with oblong spots of wood brown; ear coverts pale rufous; rest of the plumage blackish grey above and below, the feathers with albescent shafts, those of the flanks centred and tipped with wood brown; outermost primaries dusky, edged paler; rest black; upper tail coverts glossy purple; tail feathers glossy green, plainer on the lateral feathers; under tail coverts glossy black with white shafts. The *female* has the head and neck rufous brown, paler on the chin and throat; the upper surface of the body is mottled with brown; wing coverts pale shafted; beneath blackish brown, the feathers broadly centred with white; flanks, thighs, vent and under tail coverts dull brown; primaries dark brown, the secondaries mottled brown; tail blackish brown. Bill yellowish horny; comb, nude orbits and wattles red; irides orange brown; legs and feet horny yellowish or reddish yellow.

*Length.*—28 to 32 inches; wing 9·35 to 9·65; tail from vent 14 to 16; tarsus 2·85 to 3; bill from gape 1·28 to 1·3. *Females*—*Length*—18 to 20 inches; wing 7·8 to 8·3; tail 6 to 7; tarsus 2·2 to 2·5; bill from gape 1·02 to 1·2.

*Hab.*—Throughout the peninsula of India in suitable localities, extending northwards in the Central Provinces to Puchmuree, and on the west as far north as Mount Abu. It ascends the Neilgherries to 5,000 feet. Breeds wherever found in March and April, making a nest in woods on the ground. Eggs, 7 to 13, dirty white or buff colour, from 1·7 to 2·05 inches in length, and from 1·35 to 1·5 inches in breadth.

Gen. **Galloperdix**.—*Blyth*!

Bill somewhat lengthened; orbits nude; tail moderately long, of 14 feathers, held erect and folded as in the domestic fowl; tarsus of male with 2 or more spurs; females also spurred.

**1209. *Galloperdix spadiceus* (Gmel.),** *Hardwicke, Ill. Ind. Zool.* i. pl. 42, fig. 2; *Gould, B. Asia*, pt. vi. pl. 3; *Yerd., B. Ind.* iii. p. 541, No. 814; *Hume, Nests and Eggs, Ind. B.* p. 532; *id., Str. F.* iv. p. 5; *Hume and Marsh., Game Birds*, p. 248 pl.—The RED SPUR FOWL.

Forehead buffish; crown of the head and nape dusky olive brown; orbital region whity brown; chin, throat, and sides of the neck pale brown; rest of body both above and below rich bay, each feather margined paler; central feather of the tail chestnut, the rest dark brown, more or less mottled in adolescents, the mottlings obsolete in old adults; lower abdomen, vent, and under tail coverts olivaceous. In the female the crown is dusky blackish, the neck olive brown; upper plumage pale rufous brown, each feather banded with black and minutely speckled; rump and upper tail coverts the same; tail feathers with black bars and rufous mottlings; primaries, their coverts and winglet spotless dusky brown; in some specimens the primaries are margined whitish and the secondaries barred with dark yellowish, the winglets too are finely barred with black and white; chin and throat albescent; neck olive brown, tipped with black; breast and flanks bright ferruginous with narrow black fringes; belly dusky brown; under tail coverts freckled rufous brown. Bill dusky, red at base, horny towards the tip; legs and feet from coral to vermilion red. Males have from 2 to 3 spurs; females also have spurs, sometimes one on one leg only, on others one on each leg; irides orange brown.

*Length.*—14 to 15 inches; wing 6·2 to 6·5; tail 5 to 6; tarsus , bill from gape 1 to 1·2. Females are smaller.

*Hab.*—Southern India, on the Neilgherries, Shevaroy, Wynaad, Malabar Coast, Western Ghauts, up to Mount Abu; the Eastern parts of Central India, between Nagpur and Nerbudda and in the Vindhian range; also in the Rajmehal and Kurruckpore hills. It has been found north of the Ganges and in the Nepaul and Goruckpur Terai. Wherever it is found, Hume says, he believes it is a permanent resident. It lays from the end of February to the middle of June, about 10 eggs, similar to that of a hen in shape and size, though this varies much, and also in colour.

**1210. Galloperdix lunulatus** (*Valenc.*), *Ferd.*, *B. Ind.* iii. p. 543, No. 815; *Hume, Nests and Eggs Ind. B.* p. 533; *Str. F.* ii. pp. 427, 458, 532; *Hume and Marsh., Game Birds* i. p. 255, pl.; *Elliot, Mon. Phas.* ii. pl. 34 (?) *Francolinus nivosus*, *Deless., Voy. Aux. Indes.* pl. 10. *Perdix Hardwickii* (*Gray*), *Hardw., Ill. Ind. Zool.* i. pl. 52; *Ferd., Ill. Ind. Zool.* i. pl. 52; *Ferd., Ind. Orn.* pl. 42 (the female).—The PAINTED SPUR FOWL.

Crown, lores, nape, cheeks, chin and throat variegated with streaks and spots of black and white; upper breast black with triangular white or buffish white spots; back, rump, upper tail coverts and wing coverts rich chestnut, the back and wing coverts with a spot of white encircled by black on each feather, and the lower back and rump with black edges to the feathers; lower breast and abdomen ochreous buff, the feathers edged with black and with a triangular black spot; thigh coverts, flanks, and under tail coverts dull chestnut, the feathers edged with black and with a white spot on each feather; primaries earthy brown, margined with chestnut, secondaries the same; tail dark sepia brown, in adults glossed with green. The *female* has the top of the head dusky; the forehead, superciliary region and nape tinged very slightly with chestnut; moustachial streak buffish, edged with dark brown; upper and under plumage olivaceous brown, except the breast and abdomen, which are ochreous with blackish lunulated margins. Bill blackish; orbits red; irides red brown; legs horny brown; legs and feet plumbeous.

*Length.*—12·5 to 13·6; wing 5·85 to 6·2; tail 4·3 to 5; tarsus 1·5 to 1·65; bill from gape 0·8 to 0·9. Females are smaller. The males have from one to three spurs on each leg, generally two on each, often two on one and three on the other. The females also generally have at least one spur on each leg, sometimes two, rarely none at all.

*Hab.*—Southern India south of the Neilgherries, the Eastern Ghauts and the high broken country connected with these into Cuttack, the Tributary Mehals, Raipoor, Bhundara, Mirzapoor and Monghyr hills. On the other hand, at Goomsoor, in the north of the Ganjam districts, *spadiceus* only occurs. The distribution of this and *spadiceus*, Hume says, is as yet very imperfectly understood and difficult to disentangle. This species is especially partial to low rocky hills covered with impenetrable thickets. They are found either singly or in pairs, and generally met with in the morning and evening, when they descend to the more open spaces to feed. It breeds in suitable localities in the eastern two-thirds of the Peninsula of India, south of the Neigherries, during March, April, and May, making only a slight excavation in the ground for the eggs under the shelter of a boulder or rock in a thicket. The eggs are rather regular ovals, whitish buff in colour, and somewhat more elongated than the typical fowl's egg. *Galloperdix zeylonensis*, which Hume figures in his *Game Birds of India*, is peculiar to Ceylon.

**Family.—TETRAONIDÆ.**

Bill generally short, stout and thick; wings rounded in most, pointed in a few, longer comparatively than in the *Phasianidæ*; tail short; tarsus short and stout.

**Sub-Family.—PERDICINÆ.**

Tarsus not feathered; orbital region not feathered in some; tarsus often spurred. This includes the Snow Cocks and Partridges, also the Rock or Sand Partridges.

**Gen. Tetraogallus,—Gray.**

Bill moderately long, broad and stout; a small nude patch behind the eye; tail of 18 feathers; tarsi short and stout, and with a blunt spur.

**1211. Tetraogallus Himalayensis** (*G. R. Gray*), *Gould, B. Asia*, pt. v. pl. 2; *Jerd., B. Ind.* iii. p. 549, No. 816; *Hume, Game Birds of Ind.* p. 267, pl.—The HIMALAYAN SNOW COCK.

Crown of the head, cheeks and back of neck grey; a chestnut band from above the eye down the sides of the nape, and a second one from the angle of the mouth down the sides of the neck; two dark brown lunate marks on the sides of the neck; chin and throat whitish; ear coverts greyish; breast whitish, the upper feathers each with a black lunule; upper surface of the body light ashy grey, minutely freckled with black, more ashy on the wings and fringed with rufous; feathers of the back, rump and wing coverts striped with rufescent buff; primaries white, broadly tipped with dusky and freckled with greyish; under surface of the body grey, minutely freckled with brown, with a double broad streak of chestnut on each feather; vent and under tail coverts white. Bill pale horny or slaty; nostril dark horny; irides dark brown; legs and feet yellowish red or orange.

*Length*.—26 to 29 inches; wing 11·25 to 12·6; tail 7·8 to 8·1; tarsus 2·7 to 2·8; bill from gape 1·35 to 1·55. Females are smaller. *Length*—21·5 to 23 inches, with a wing of 10·8 to 11·5.

*Hab*.—The Himalayas from the eastern portions of Kumaon to Hazara. Affects bare rocky hillsides, ravines and passes in the higher snowy ranges. Common also in the northern portions of Kumaon and British Garhwal.

**1212. Tetraogallus thibetanus**, *Gould, B. Asia* part v. pl. 4; *Jerd., B. Ind.* iii. p. 554; *Hume, Str. F.* vii. p. 430; *id. and Marsh., Game Birds* p. 276, pl.—The THIBETAN SNOW COCK.

Head and neck grey; ear coverts white; upper plumage freckled with buff grey and black, the latter colour forming dashes; primaries grey; secondaries broadly edged externally with white, forming a marked wing band; tail rufous brown; chin, throat and breast white, separated from the grey of the head and neck by a dusky freckled line and a gorget of freckled grey and



buff; abdomen white; flanks and lower belly with dashes of black; under tail coverts black; bill horny; legs red. (*Ferd.*)

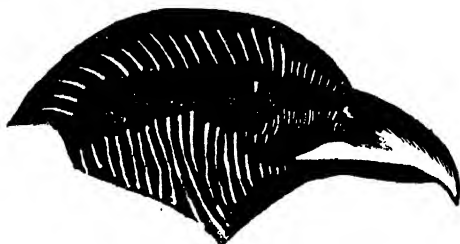
*Length.*—22 inches; wing 10·5; tail 7; tarsus 2·5. (*Ferd.*)

*Hab.*—Kumaon, in the Himalayas, Ladak, and other places across the Himalayas.

Gen. **Lerwa.**—*Hodgs.*

Bill short and stout; orbits feathered; wings moderately long and pointed, 2nd quill longest; tail of 14 feathers; tarsi partly feathered and with short spurs in the male.

**1213. *Lerwa nivicola*** (*Hodgs.*), *Ferd.*, *Madras, Journ Lit.* 1837; *Ferd.*, *B. Ind.* iii. p. 555, No. 817; *Hume and Marsh.*, *Game Birds* vol. ii. p. 1, pl. *Perdix lerwa*, *Hodgs.*, *P. Z. S.* 1833; *Hardw.*, *Ill. Ind. Zool.* 2, pl. 44, fig. 1; *Gould, B. Asia*, pt. vii. pl. 8.—THE SNOW PARTRIDGE.



Head of *Lerwa nivicola*.

Head, neck and whole upper plumage, including the wings and tail, minutely barred with black and greyish white; the sides of the neck tinged with chestnut, also the wing coverts; quills dusky brown, narrowly freckled with buffy white on their outer edges, and the secondaries broadly tipped with white; tail dusky, with freckled bars of grey and rufous, the feathers black-shafted; chin greyish; throat, breast and upper abdomen chestnut red with dashes of buff especially on the flanks; lower abdomen, vent, and thigh coverts like the back, but with a rufous tinge; lower tail coverts chestnut red, with buffy white tips. Bill bright red; irides dark brown; legs and feet red.

*Length.*—15 to 16 inches; wing 8; tail 4; tarsus 1·5.

*Hab.*—The whole extent of the Himalayas to the extreme N.-W. in Sikkim. According to Jerdon they are gregarious in coveys, nestle and breed under jutting rocks, feed on seeds and insects.

Gen. **Francolinus.**—*Steph.*

Bill very slightly curved at tip; tail of fourteen feathers, even or rounded; tarsi of male with blunt spurs.

**1214. *Francolinus vulgaris*** (*Steph.*), *Gould, B. Eur.* pl. 259; *Ferd.*, *B. Ind.* iii. p. 558, No. 818; *Hume, Nests and Eggs Ind. B.* p. 537; *id.*, *Sir. F.* iv. p. 5; *id. and Marsh.*, *Game Birds* ii. p. 9, pl.; *Murray*,

*Hbdk., Zool., &c., Sind*, p. 202; *id., Vert. Zool., Sind*, p. 213.—The BLACK PARTRIDGE.

## PLATE.

*Male*.—Top of head black, the feathers behind edged with rufescent brown; lores, chin, throat and neck in front black; nape and hind neck black, each feather with four white spots, two on each side of the shaft, the lower of which near the tip showing through; a streak under the eye to the ear coverts white; a chestnut red collar round the neck; upper part of the back black, also the scapulars, the smaller feathers with four roundish spots, two on each side of the shaft, and the longer ones with six rufescent marks, two transverse and a longitudinal streak on each side of the shaft, the longitudinal ones only showing from under the feathers; middle and lower back, rump and upper tail coverts barred with black and white; wing coverts black, edged with rufescent; quills barred with rufous and black; tail black, the middle feathers barred like the back with black and white, the rest barred at the bases only; breast, abdomen and flanks deep black, the feathers of the flanks with 3—4 white spots, the hinder ones near the vent with broad white tips; thigh and under tail coverts and feathers round the vent chestnut; bill black; irides brown; legs reddish.

*Length*.—13 to 14 inches; wing 5.5 to 5.75; tail 3.5.

The *female* wants the black head and neck of the male and the rufous collar. It is generally much browner in colour.

*Hab.*—The whole of Northern India from the Himalayas to the valley of the Ganges; also the Punjab. Southwards, through Rajpootana to Sind. Eastwards, through Dacca to Assam, Sylhet and Tipperah. Breeds in suitable localities, wherever it occurs, during July and August, laying from six to ten eggs, unspotted fawn brown in colour, varying in size from 1.42 to 1.8 in length and 1.22 to 1.38 in breadth. It frequents, by preference, grass meadows near water; also cultivated fields of corn, mustard or pulse, and any patch of moderately high green herbage. In Sind it affects low tamarisk jungle and wheat fields. Its call in the early mornings is unmistakable, and is always made from some little eminence, as an ant hill or the stump of a tree. It affords good sport with a pointer, and is tolerably good eating, but, like all the *Tetraonidæ*, is best cold, and after at least 36 hours.

**1215. *Francolinus pictus* (Fard. and Selby), Fard., B. Ind.** iii. p. 561, No. 819; *Hume, Str. F.* v. p. 211; *id., Nests and Eggs Ind. B.* p. 538; *id. and Marsh., Game Birds* p. 19 pl. *Perdix pictus*, *Fard. and Selby, Ill. Orn.* pl. 50.—The PAINTED PARTRIDGE.

Crown of the head dark brown, the feathers edged paler; forehead and lores, also the cheeks and ear coverts, chestnut; back and scapulars deep brown, the feathers margined with white; wings chestnut, banded with black; lower back, rump, and upper tail coverts with wavy bars of black and white;

tail deep brown, the feathers narrowly barred across; chin white; neck all round pale ferruginous; breast and abdomen variegated black and white, each feather being white with two dark bands, and the shafts and tip black; under tail coverts chestnut. Bill blackish; irides dark brown; legs yellowish red.

*Length*.—12 inches; wing 6; tail 2·75; tarsus 1·75.

*Hab*.—Central and Southern India, where it replaces *F. vulgaris*. Found throughout Bundelkund and the Saugor and Nerbudda territories, thence south to Nagpore and the Deccan; west it extends into Khandesh and perhaps Guzerat, and eastwards to the Northern Circars. Like its northern congener, Jerdon adds that it delights in grassy plains and fields, but affects more the open, dry and raised plains with scattered bushes. It breeds during the monsoon (July to September), laying 7—8 eggs, rather of a peg-top shape, broad and obtuse at the large end, and much pointed towards the small end; the colour may be said to be a pale *café au lait*. Size 1·3 to 1·45 by 1·1 to 1·22.

**1216. *Francolinus chinensis* (Osb.), Hume, Nests and Eggs Ind. B. p. 539; id., Str. F. iii. p. 171; Wardlaw-Ramsay, Ibis, 1877, p. 468; Oates, Str. F. v. p. 164; Dav. et Oust. Ois. Chine, p. 400; Hume and Dav., Str. F. vi. p. 443; Hume, Str. F. viii. p. 111; Hume and Marsh., Game Birds ii. p. 27, pl.; Oates, Str. F. x. p. 236; id., B. Br. Burm. ii. p. 323. Tetrao chinensis, Osb., Voy. ii. p. 326. Tetrao perlatus, Gm., Syst. Nat. i. p. 758. Francolinus Phayrei, Blyth, J. A. S. B. xii. p. 1011; xxiv. p. 480; id., B. Burm. p. 149. Francolinus perlatus, Anders., Yunnan Exped. p. 672.**—THE CHINESE FRANCOLIN.

Crown of the head black, each feather edged with chestnut; a band from the bill over the eyes and ear coverts black; space between this and the crown chestnut, a dark band from the bill on each side down the sides of the throat; space between these and the superciliary streak white; chin and throat white. Neck, back, breast, abdomen and sides of the body black, ocellated with fulvous white; under tail coverts chestnut; rump and upper tail coverts barred black and white; scapulars and tertiaries chestnut; coverts and wings blackish, ocellated and barred with white; tail black, barred with white, except at the tip.

The *female* has the whole lower plumage barred with black; the chin white, and wants the superciliary and coronal band, and there are no ocellations on the wings; irides hazel; bill dusky, paler at tip of upper mandible; legs orange.

*Length*.—13 inches; tail 3·3; wing 5·7; tarsus 1·7; bill from gape 1.

*Hab*.—British Burmah, confined to the upper portion of the Irrawaddy valley above Prome. Habits same as its other congeners. Breeds in June and July. Eggs 8 in number, pale buff. Size—1·45 to 1·51 by 1·2.

#### Gen. *Caccabis*.—Kaup.

Bill red, slightly longer than in *Francolinus*; tarsi of male with a blunt spur; a small bare patch behind the eye.

**1217. *Caccabis chukor*, Gray, *Ill. Ind. Zool.* pl. 54; *Ferd.*, *B. Ind.* iii. p. 564, No. 820; *Hume, Nests and Eggs, Ind. B.* p. 139; *Murray, Hdbk., Zool., &c., Sind*, p. 203; *id.*, *Vert. Zool., Sind*, p. 213; *Hume and Marsh., Game Birds* ii. p. 33, pl.—The CHUKOR PARTRIDGE.**

Above pale bluish or olive ashy, with a rufescent tinge on the back; sides of the face, chin and throat fulvous, pale chestnut or rufescent, encircled by a broad black band from the forehead through the eye along the side of the neck on to the breast, meeting its fellow from the other side and forming a large pale chestnut or rufous pectoral gorget; a pale white line behind the eye; ear coverts chestnut; sides of the lower mandible and chin with a black spot; breast bluish ashy, slightly tinged with rufescent; abdomen and under tail coverts buff, the flanks from the axil deeper buff, each feather ashy at the base with two dark bands, the interspace of which is buff and terminated broadly with chestnut; wings concolorous with the back, the ends of all the primaries, except the first, margined to nearly the tip on their outer webs with buff, some of the secondaries also; axillaries buff. Tail rufous, except the central feathers, which are concolorous with the back.

*Length*.—14 to 15·75 inches; expanse 21 to 23·25; wing 6·25 to 6·8; tail 4 to 4·8. The female is slightly smaller. *Length*.—13 to 14·25; resembles the male, and wants the spur.

*Hab.*—Throughout the Himalayas to Afghanistan. Common also in Beloochistan, Sind, Punjab Salt Range, Persia and along the Arabian Coast. Breeds from May to July in Chaman (S. Afghanistan), making a nest composed of a little grass under the shelter of grass tufts or bushes. The normal number of eggs is 12, but as many as 14 and 16 have been taken from a single nest, all varying in size and shape, from peg-tops to elongated ovals. The colour is also variable, but typically is a pale *café au lait* ground colour, with brick-red specklings. The Chukor Partridge is very pugnacious, especially during spring time, when two fighting cocks may be almost knocked over with a stick. They are much prized for their fighting propensities, and in Beloochistan and Afghanistan the men have a number trained for the purpose, on which large bettings are made.

#### Gen. **Ammoperdix**.—Gray.

Bill reddish; wings long; tarsi not spurred.

**1218. *Ammoperdix bonhami*, Gray, *Des. Murs. I. O.* t. 29; *Gould, B. As.* pt. ii. pl. 4; *Ferd.*, *B. Ind.* iii. p. 567; *Str. F.* i. 226; *Murray, Hdbk., Zool., &c., Sind*, p. 203; *Hume, Nests and Eggs Ind. B.* p. 540; *Hume and Marsh., Game Birds* p. 45 pl.—The SEESSEE PARTRIDGE.**

*Male*.—Head and cheeks dull grey; forehead, a streak above and below the eye and a border to the ear coverts black; lores, a band behind the eye and ear coverts silky white, rufous behind; throat greyish white; breast vinaceous or vinous fawn; sides of the neck spotted with white; upper

parts isabelline or pale brownish, freckled with dusky; rump and upper tail coverts like the back, with darker markings; primaries isabelline on their outer webs, finely pencilled with dusky, and all, except the first, with broad whitish bands or bars; tail brownish, tinged with chestnut, the tips of the feathers freckled with dark brown; legs and feet dingy yellow; irides bright or orange yellow; bill orange; cere orange red.

*Length*.—9 to 11 inches; wing 4·75 to 5·75; tail 2·5. *Female* slightly smaller, has not the dull grey crown of the male, and in general is more brownish throughout; the black markings on the head are replaced by freckles of dusky or black and white, and the entire upper and lower surface of the body is mottled.

*Hab.*—Sind, Punjab, N.-W. Provinces, Beloochistan and Afghanistan, also Persia. Numerous throughout Upper Sind, also in Beloochistan, where in the early morning, especially on broken ground and on the road in the Bolan, as many as two or three hundred may be met with, feeding on the droppings of cattle, or, in its absence, on grass seeds along the hill sides. Breeds in the Punjab, Beloochistan and Afghanistan in April and May, nesting in a slight depression in the ground under some thick bush or jutting rock. Eggs 10—12 in number rather lengthened ovals, more or less compressed or pointed towards one end; in colour from pure white to a pale *café au lait*. They vary in size from 1·3 to 1·5 inches in length  $\times$  0·98 to 1·1 in breadth.

#### Gen. *Ortygornis*.—*Reich*.

**1219.** *Ortygornis ponticeriana*, *Gmel., Syst. Nat.* i. p.; *Gray, Ill. Ind. Zool.*, pl. 56, fig. 2; *Ferd., B. Ind.* iii. p. 569, No. 822; *Murray, Hbdk., Zool., &c., Sind*, p. 203; *id., Vert. Zool., Sind*, p. 214; *Hume, Nests and Eggs, Ind. B.* p. 542; *Hume and Marsh., Game Birds* p. 51, pl.—The COMMON GREY PARTRIDGE.

Forehead, over the eyes, lores, nape and face rufous, the face with dusky freckles; top of the head olive brown; ear coverts rufescent brown; back, scapulars and wing coverts dark chestnut, each feather with two or three transverse buffy bars, bordered with black on both sides; feathers of the rump and upper tail coverts similar, but olive brown instead of chestnut; tail feathers rich chestnut or deep ferruginous, with a broad subterminal dark brown nearly black band, tipped with pale or yellowish white; central tail feathers like the back; beneath the chin and throat are white or creamy, encircled from the base of the lower mandible with dark spots, forming a gular patch; breast and entire lower parts creamy white, or very pale buff, the feathers with transverse dark bars; lower tail coverts ferruginous. The female is like the male, but paler in colour, and wants the spur.

*Length*.—11·5 to 13·5 inches; wing 5·5 to 6; tail 3·35 to 4; legs bright red; irides brown; the orbital ring with a row of minute white feathers; bill dusky brown.

*Hab.*—Throughout India, Ceylon, Beloochistan and S. Persia. Affects dry, scrubby or bare stony tracts. Delights among *Euphorbia* bushes. In the morning they are generally found in fields or on the edges of cultivation, where they pick up seeds and corn, also insects of all kinds. They afford fair sport with one or two good men, or a good dog and one's wits against the birds. Breeds from February to May, and from July to November. In Bengal, either in the deltaic district or in the Eastern Provinces, it does not occur, nor in Assam or Burmah. In the Deccan it ascends to 2,500 feet or more; in the Himalayas and Southern India not above 1,000 feet.

**1220. *Ortygornis gularis* (Temm.), *Ferd.*, *B. Ind.* iii. p. 572, No. 823; *Hume, Nests and Eggs Ind. B.* p. 544; *id. and Marsh., Game, Birds* p. 59, pl. *Perdix gularis*, *Hardw., Ill. Ind. Zool.* i. pl. 56, fig. 1.—The KΥΑΗ PARTRIDGE.**

Crown olive brown; lores, a streak below the eye and supercilium pale buff; a line through the eye to the ear coverts dusky brown; back brown, barred with buff; wing coverts the same; primaries brown on the outer web, ferruginous on the inner; tail ferruginous, central feathers brown; chin and throat rusty ferruginous; breast and abdomen brown with broad white streaks edged with black; under tail coverts ferruginous; under wing coverts ferruginous. Bill blackish; irides dark brown; legs litharge or dull red.

*Length.*—15 to 15·5 inches; wing 7·1 to 7·25; tail 4·5; tarsus 2·5; bill from gape 1·01.

*Hab.*—Bengal from Tirhoot and Goruckpoor to the Sunderbuns, extending eastwards into Assam, Sylhet, Cachar, and Tipperah. In the Western Provinces of Bengal, it is found on the north bank of the Ganges, crossing in a few suitable localities from Monghyr to Rajmahal. It is also found up to the base of the Himalayas and in the Oudh Terai. Jerdon adds that its favourite grounds are thick beds of reeds and long grass, along the banks of rivers, jheels and watercourses, and especially in those swampy patches of reeds where the creeping rose bushes form thickets impenetrable to aught but an elephant. It is said to breed from March to May. The eggs, 5 in number, are, it is said, laid under some thick bush in a dry spot, and to be white, like those of the Grey Partridge.

*Perdix Hodgsoni*, *Gould*, figured by Gould in his "Birds of Asia," pt. ix., pl. 2, does not appear to have been yet obtained within our limits. The upper plumage is olive brown, and the lower parts buff; sides and back of the neck and wings chestnut red; head red, speckled with white; line from the forehead round the ear coverts and throat black. (*Ferd.*)

#### Gen. *Arboricola*.—*Hodgs.*

Tarsus not spurred; toes long with long claws; tail short, of 12 feathers. Sexes similar in plumage.

**1221. *Arboricola torqueola* (Valenc.),** *Jerd., B. Ind.* iii. p. 577, No. 824; *Hume, Str. F.* ii. p. 449; *id., Nests and Eggs Ind. B.* p. 544; *id. and Marsh., Game Birds* ii. p. 65, pl. *Perdix megapodiæ, Ten., Pl. Col.* 462, 463. *Perdix olivacea, Gray and Hardw., Ill. Ind. Zool.* i. p. 57.—THE COMMON HILL PARTRIDGE.

Top of the head uniform bright chestnut; lores black, also above and below the eye; ear coverts chestnut, continued as a streak down the sides of the nape; back and rump olive, the feathers edged with dusky and forming lunules; wing coverts pale chestnut with blackish shaft streaks and spots; chin and throat black, the feathers margined with white; *breast pale ashy, surmounted by a broad white band*; lower breast and abdomen ashy white; flanks olive, broadly dashed with chestnut and with large white spots; tail olive, speckled with black. The female has the head and neck olive, speckled with black; the lores white with the same but distant speckles; middle of throat unspotted rufous; breast grey, tinged with rusty. Bill black; irides brown, deep brown or reddish brown; orbital skin and a spot at gape crimson; legs and feet blue grey, tinged with red.

*Length.*—10·5 to 12 inches; wing 5·7 to 6·2; tail 2·75 to 3·25; tarsus 1·6 to 2; bill from gape 0·8 to 1.

*Hab.*—Throughout the outer ranges of the Himalayas from Simla to Darjeeling. In Sikkim it is found from about 6,000 to 9,000 feet. It extends to Bhootan and also to the Naga hills. Hume says it haunts dark, densely jungled watercourses and ravines running down the hillsides and never or seldom rising when disturbed. Nothing appears to be known of the nidification of this species.

**1222. *Arboricola atrogularis* (Blyth),** *Jerd., B. Ind.* iii. p. 579; *Hume, Str. F.* ii. p. 449; v. p. 14 (note); *Hume and Marsh., Game Birds*, p. 79, pl.—THE BLACK-THROATED HILL PARTRIDGE.

Not unlike *A. torqueolus*, but differs in having the top of the head greyish olive, more or less black spotted, and the breast pale uniform grey. Bill blackish brown; irides deep brown; orbital space and gular skin vermilion; legs orange red.

*Length.*—10 to 11 inches; wing 5 to 5·9; tail 2·15 to 2·5; tarsus 1·5 to 1·7; bill from gape 0·85 to 0·87.

*Hab.*—Assam, extending to the Garo hills, thence it occurs in Cachar, Sylhet and Tipperah; also in Chittagong. Breeds in Sylhet, where Mr. Cripps took two nests. The eggs were broad ovals, a good deal pointed towards the small end, and white. In size they vary from 1·33 to 1·43 in length and from 1·1 to 1·13 in breadth.

**1223. *Arboricola brunneipectus* (Tickell),** *Blyth, J. A. S. B.* xxiv. p. 276; *Blyth, B. Burm.* p. 150; *Hume and Dav., Str. F.* vi. p. 443;

*Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 87 pl.; *Bingham, Str. F.* ix. p. 195; *Oates, Str. F.* x. p. 236; *Oates, B. Br. Burm.* ii. p. 325. *Arborophila brunneipectus*, *Hume, Str. F.* ii. p. 449; iii. p. 174; *Wald., Ibis*, 1875, p. 459.—THE BROWN-BREASTED HILL PARTRIDGE!

Forehead and supercilium, which extends to the nape, fawn colour; lores, circle round the eye, a line continued from behind the eye over the ear coverts to the sides of the neck black, forming in the latter a large black patch, behind which and around the throat and upper breast are spots of black; crown and nape olive brown, the feathers tipped with black; hind head nearly all black; back and scapulars olive brown, barred, straight or lunately with black; rump olive brown with but few bars; upper tail coverts plain olive brown; tail olive brown, mottled with black; primaries brown, their tips mottled with rufescent; secondaries brown, edged on the outer webs with pale chestnut; tertiaries and longer scapulars olive brown, tipped with chestnut and a subterminal black oval patch; wing coverts olive brown, some of the median and greater series with large black patches; breast uniform tawny or ferruginous olive; middle of abdomen and vent whitish; sides of abdomen and body tawny, the feathers with a large white spot and edged in crescent form with black; under tail coverts tawny brown barred with black. Bill black; eyelids, orbital patch, and gular skin bright red, very thinly covered with feathers; legs and feet dull coral to bright red.

*Length*.—10·6 to 11·6; wing 5·2 to 6; tail 2·1 to 2·6; tarsus 1·5 to 1·8; bill from gape 1·0 to 1·1. Females are smaller and average only 10 inches in length.

*Hab.*—The Pegu hills on the eastern spurs and Tenasserim, as far south as Tavoy. Oates adds that it is common in densely-wooded ravines and nullahs. They skulk in the undergrowths, and would seldom be seen were they not to come to the beds of streams to drink and bathe.

**1224. *Arboricola chloropus* (Tickell), Blyth, *J. A. S. B.* xviii. p. 453; Blyth, *B. Burmah*, p. 150; *Hume and Dav., Str. F.* vi. p. 444; *Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 91, pl.; *Bingham, Str. F.* ix. p. 195; *Oates, Str. F.* x. p. 236; *id., B. Br. Burmah* ii. p. 326. *Tropicoperdix chloropus* (Tickell), *Blyth, J. A. S. B.* xxviii. p. 415. *Arborophila chloropus*, *Hume, Str. F.* ii. p. 449. *Peloperdix chloropus*, *Hume, Str. F.* iii. p. 176.—THE GREEN-LEGGED HILL-PARTRIDGE.**

Forehead and supercilium continued on to the sides of the nape and meeting behind white, the feathers slightly edged with blackish; crown and nape rich olive brown; the back, scapulars, tertiaries, lesser wing coverts, rump, and upper tail coverts rich olive brown tinged with fulvous and irregularly but closely barred with blackish; primaries dark brown, freckled on the outer webs with fulvous; greater coverts and secondaries freckled and marked with fulvous and pale rufous; tail rufous brown, with freckles and



broken bars of black; upper abdomen ferruginous; lower abdomen, vent and under tail coverts buffy white; sides of the body pale ferruginous with wavy bars of black. Irides hazel; bill dusky red at base, rest greenish; eyelids and orbital skin purplish; legs greenish.

*Length*.—11·4 to 12 inches; wing 6·05 to 6·6; tail 2·9 to 3·5; tarsus 1·7 to 1·79; bill from gape 0·8 to 0·9. The females are smaller.

*Hab.*—The evergreen forests of the eastern slopes of the Pegu hills; also in Tenasserim from the extreme north down to Tavoy. Habits same as the last.

**1225. *Arboricola intermedia*, Blyth, *J. A. S. B.* xxiv. p. 277; Hume, *Str. F.* viii. p. 111.; *Hume and Marsh., Game Birds* ii. p. 85, pl. *Arborophila intermedia*, Hume, *Str. F.* ii. p. 450; Oates, *Str. F.* iii. p. 344; *id.*, *B. Br. Burmah* ii. p. 327.—The ARRAKAN HILL-PARTRIDGE.**

Front of the head as far back as the eyes pale grey; rest of head and nape hair brown, streaked with black; lores, and a broad supercilium reaching to the back of the head greyish white, the feathers with a central black streak; ear coverts, cheeks, sides of the neck and feathers under the eye black, the bases rufous and showing through; back, rump, and upper tail coverts glossy olive brown, edged darker, and all the feathers except those on the back with a small lanceolate spot of black; tail olive brown, mottled with black, the outer feathers tipped with white; primaries brown, narrowly edged and tipped with pale buff; secondaries with broader edges and tips; tertiaries, scapulars and wing coverts a mixture of chestnut, fulvous and black, the latter colour being in the form of large oval spots near the tips; throat and foreneck black, a rufous patch below it; breast and upper abdomen dark grey; sides of the body chestnut, each feather with a large grey patch, inside of which is a long and narrow white streak; lower abdomen greyish white; flanks and thigh coverts pale buff with large black spots; under tail coverts black at base, white at tip.

*Length*.—10 to 11 inches; wing 5·15 to 5·7; tail 2·2 to 2·4; tarsus 1·5; bill from gape 0·8 to 0·9.

*Hab.*—Arracan hills; also Cachar and the Naga hills.

**1226. *Arboricola rufogularis*, Blyth, *J. A. S. B.* xviii. p. 819; *Jerd., B. Ind.* ii. p. 578; Blyth, *B. Burm.* p. 150; Hume, *Str. F.* v. p. 114; Hume and Dav., *Str. F.* vi. p. 444; Hume, *Str. F.* viii. p. 111; Hume and Marsh., *Game Birds* ii. p. 75, pl.; Scully, *Str. F.* viii. p. 349; Oates, *B. Br. Burm.* ii. p. 328. *Arborophila rufogularis*, Hume, *Str. F.* ii. p. 450. *Arboricola tickelli*, Hume, in *Hume and Marsh. Game Birds* ii. p. 78, note.—The RED-THROATED HILL-PARTRIDGE.**

Very similar to *A. intermedia*, but differs in the throat, foreneck and sides of the neck being rufous, spotted with black, instead of black, and the rufous

of the foreneck divided from the grey breast by a black band. (*Oates*) Legs and feet pale pinky red; bill horny black; irides deep brown; orbital skin bright red. (*Davison*.)

*Length*.—11 inches; tail 3; wing 5·5; tarsus 1·5; bill from gape 1·1.

*Hab*.—Tenasserim, and along the Himalayas from Assam to Kumaon. Habits the same as the other species of the genus.

**1227. *Arboricola Mandelli*, *Hume*, *Str. F.* ii. p. 449; iii. p. 262, pl. 1; *Hume and Marsh.*, *Game Birds* ii. p. 84, pl.—The BHOOTAN HILL-PARTRIDGE.**

Lores, forehead, and sinciput a rich deep brownish chestnut; under the anterior portion of the lores a narrow yellowish streak; crown, occiput and nape rich deep rufescent olive brown; supercilium grey, continued back over the ear coverts to the nape; chin, throat, cheeks, ear coverts, sides of the neck and basal portion of the back of the neck rich bright ferruginous, spotted everywhere except on the chin and throat with velvety black, a band of which clearly defines the ferruginous across the base of the throat. Immediately above this black band, in the centre of the base of the neck in front, is a conspicuous pure white patch, about 0·8 inch long and 0·35 to 0·4 deep. Below the black band, the breast and sides of the breast are rich slightly ferruginous maroon; on either side of the upper portion of the throat a very narrow mandibular white stripe, about 0·6 inch long, runs down from the base of the lower mandible; above this a black line, beginning under the posterior portion of the lores, runs under the eye; the abdomen and rest of the lower parts pale slaty grey, rather sullied, and in some lights slightly brownish, and many of the feathers with a small irregular central white spot near the tip. The flank feathers (where the white spots are largest and most conspicuous) tinged or margined with rusty or ferruginous chestnut; the vent and lower tail coverts strongly tinged with dull olive, the coverts, moreover, having the white spot nearer the tips and more or less expanded into a bar, and being here and there a little tinged with rusty; wing lining about the carpal joint a rich hair brown; the rest a pale grey brown (much the colour of the lower surface of the quills), a little tipped with white. Upper back and interscapular region plain olive, a little slaty in some lights towards the bases of the feathers, some of the feathers very narrowly and inconspicuously fringed with black; lower back, rump and upper tail coverts rather browner and brighter olive, some of the feathers very narrowly fringed with black and most of them with conspicuous hastate subterminal velvet black spots; coverts and scapulars and tips of tertiaries similar (the black spots varying in shape from a sort of lunule on the scapulars to the linear lanceolate dash on some of the coverts), but the feathers more or less tinged towards the margins with deep ferruginous; the primaries plain, uniform hair brown; secondaries similar, but freckled and mottled more or less on the outer webs and at the tips with ferruginous. (*Hume*, *Game Birds*.) The soft parts are not described.

*Length*.—8·5 inches; wing 5; tarsus 1·5; bill from gape 0·9; bill at front 0·65; tail 1·5.

*Hab*.—The Bhootan Doars. Nothing is known of its habits, though it may be presumed that they do not differ materially from those of its congeners.

### Gen. *Bambusicola*.

General characters as in *Arboricola*; wings short and rounded; male tarsi spurred.

**1228. *Bambusicola Fytchii*, Anderson, *Yunnan Exped.*; *Hume, Str. F.* iii. p. 399; *id.*, v. p. 493; *Hume and Marsh., Game Birds* ii. p. 97. —The WESTERN BAMBOO PARTRIDGE.**

Top of head, hind neck, lower back, rump and upper tail coverts dull pale olivaceous brown, more or less barred with very fine zigzag lines of a paler colour; some of the upper tail coverts mesially with a black spot; tail rufous brown, banded transversely with freckly bars of black and rufescent buff; wing coverts, tertiaries, and longer scapulars with chestnut and black spots at the tips; sides and flanks ochraceous, with a large velvet black subterminal spot; chin pale ochraceous; lores, a streak above the black streak behind the eye, sides of the face and cheeks ochraceous; breast tinged with chestnut; primaries chestnut on the outer webs; bill dark brown; irides hazel brown; legs pale greenish grey.

*Length*.—14 to 14·3 inches; wing 6·1 to 6·45; tail from vent 4·62 to 5·13; tarsus 1·75 to 1·93; bill from gape 0·9 to 0·97. Females average smaller.

*Length*.—12·5 to 13 inches, with a wing of 5·6 to 5·8.

*Hab*.—Shillong, in the Khasia hills, also in the Garo, North Cachar and Naga hills, and probably the hill ranges of Upper Burmah and Assam. It is said to be a shy bird, and to frequent dense grass.

### Gen. *Caloperdix*.—*Blyth*.

Bill longer and stouter than in *Arboricola*; tarsus stout and strong, double-spurred in the males. Plumage of the sexes alike.

**1229. *Caloperdix oculea* (Temm.), *Salvad., Ucc. Born.* p. 310; *Hume and Dav., Str. F.* vi. p. 449; *Hume and Marsh., Game Birds Ind.* iii. p. 101, pl.; *Hume, Str. F.* viii. p. 111; *Oates, B. Br. Burm.* ii. p. 329. *Perdix oculea*, Temm., *Pig. et Gall.* iii. p. 732. *Tetrao ocellatus* Raffl., *Trans. Linn. Soc.* xiii. p. 322. *Caloperdix ocellata*, *Blyth, B. Burm.* p. 151.—The FERRUGINOUS WOOD PARTRIDGE.**

Whole head, neck, breast, and abdomen chestnut, darkest on the crown and palest on the throat; a streak over the eye paler chestnut than the other parts; tips of the ear coverts black; lower abdomen and vent ashy white; base of the neck above, back, scapulars, sides of the breast and of the body black,

each feather with a subterminal white bar; lower back and rump black, each feather with a central oval spot of chestnut; upper tail coverts black, each feather with an irregular V-shaped mark of chestnut; flanks chestnut, with oval black drops; thighs plain chestnut; under tail coverts mixed chestnut and black, the longer ones black, tipped with fulvous white; tail brownish black, the two centre pairs of feathers irregularly marked with zigzag lines of pale fulvous; primaries plain brown, all but the first three tipped with fulvous; secondaries brown, edged on the outer webs with fulvous, the edging increasing in extent till it occupies the whole of the web on the inner secondaries; tertiaries and coverts liver brown, each feather with a black drop near the tip and the coverts narrowly edged with rufous; under wing coverts brown. (*Oates*.) Legs and feet pale dirty green; bill black; irides deep brown. (*Davison*.)

*Length*.—11 inches; tail 2·5; wing 5·8; tarsus 1·8; bill from gape 1.

*Hab*.—British Burmah in Tenasserim, south of Mergui; tolerably abundant at Malewoon and Bankasoon. Found also throughout the Malay Peninsula and Sumatra.

#### Gen. **Rollulus**.—*Bonn*.

Claw of the hind toe wanting; no spurs; head crested; bare orbital space crimson.

**1230. *Rollulus roulroul*** (*Scop.*), *Wald.*, *Ibis*, 1872, p. 382; *Salvad.*, *Ucc. Born.* p. 308; *Hume and Dav.*, *Str. F.* vi. p. 448; *id.*, *Str. F.* viii. p. 111; *id. and Marsh.*, *Game Birds* ii. p. 103, pl.; *Oates*, *B. Br. Burm.* ii. p. 330. Phasianus roulroul, *Scop.*, *Del. Flor. et Faun. Insubr.* ii. p. 93. Tetrao viridis, *Gmel.*, *Syst. Nat.* i. p. 761. Columba cristata, *Gm.*, *Syst. Nat.* i. p. 774. Perdix coronata, *Lath.*, *Suppl. Ind. Orn.* pl. lxii. Rollulus cristatus, *Blyth and Wald.*, *B. Burm.* p. 151.—The RED-CRESTED WOOD PARTRIDGE.

A long crest of feathers from the hinder part of the crown to the nape maroon; base of crest in front white; head and neck black; lower plumage, sides of the breast and lesser wing coverts bluish black; median and greater coverts, secondaries and tertiaries dark brown, freckled more or less with rufous brown on the outer webs; back, rump and upper tail coverts glossy bluish green; tail black; outer webs of primaries rufous, freckled with brown; inner webs plain brown.

The female has no crest, but there are a few hairs springing from the forehead, the whole head and neck are grey, and there is a band of dull black on the hind neck; whole of the plumage green, washed with slaty on the abdomen and vent; tail slaty brown; wings and their coverts chestnut, more or less freckled with brown. Legs, feet and base of bill scarlet-red; rest of bill black; irides slaty grey; facial skin bright red.

*Length*.—11 inches; tail 2·5; wing 5·5; tarsus 1·6; bill from gape 0·8.

*Hab.*—The extreme south of Tenasserim, extending down the Malay Peninsula, to Sumatra and Borneo. According to Davison it is always found in small parties of six or eight or more; keeps to the dense forests, and never ventures in the open; lives on berries, seeds and insects.

Gen. **Perdicula**.—*Hodgs.*

Bill short, thick, curved; tarsus with a blunt tubercle; wings rounded; outer webs of most of the primaries sinuated; tail short of 12 feathers. Size small.

**1231. *Perdicula asiatica*** (*Latham*), *Gould, B. A. S.* part xv. pl. 12; *Temm., Pl. Col.* p. 447; *Hume, Str. F.* vii. p. 156; *Hume and Marsh., Game Birds* p. 109, pl. Coturnix pentah, *Sykes, Trans. Zool. Socy.* ii. pl. 3; *Hardw., Ill. Ind. Zool.* 2, pl. 45, fig. 3. *Perdicula cambayensis, apud Jerd., B. Ind.* iii. p. 581, No. 826.—The JUNGLE BUSH QUAIL.

Above rich dark reddish brown, mottled with dull rufous; supercilium rufous white, narrowly edged with black, an indistinct pale line from the gape; feathers of the back of the neck and the back white shafted; scapulars and wing coverts richly marked on their inner webs with pale creamy white and black; primaries red-brown with tawny spots and bars; tail with a few black bars; chin rich chestnut; rest of the under surface white, tinged with rufescent on the lower abdomen, flanks, vent and lower tail coverts, and with numerous cross bars of black, smallest on the throat and sides of the neck. Bill dusky, tinged with reddish; irides light brown; legs yellowish red.

*Length.*—6·5 to 7·2 inches; wing 3 to 3·5; tail 1·5 to 1·78; tarsus 0·94 to 1; bill from gape 0·5 to 0·6.

*Hab.*—Generally distributed throughout India, Ceylon, Malabar Coast, the Wynaad, Mysore, Madras, Eastern Ghauts, Western Ghauts, Khandalla, Mahableshwar, Rutnagherry, and South Konkan generally; Chanda, Seoni, Nursingpur, Manbhoom, Rajmahal hills, Mirzapoor, Etawah, Kuchawan Hills, Mount Abu, Lucknow, Umballa, the Dhoon, Mussoorie, Simla, lower Himalayan ranges below Kumaon and Kashmir, are some of the recorded localities given by Mr. Hume, where this species is common. They always keep in small coveys in grass jungle or stubble long enough to hide them. They feed of course on seeds and grains of sorts. Breeds from September to January according to locality, making a nest on the ground under the shelter of some bush or tuft of grass. It is shallow and circular, and lined or made up of grass roots, grass and a few dead leaves. Eggs, 5—7 in number, regular ovals, more or less pointed towards one end, with a faint gloss, and in colour spotless creamy white. Size from 0·96 to 1·1 in length and 0·79 to 0·9 in breadth.

**1232. *Perdicula argoondah***, *Sykes, Trans. Zool. Soc.* ii. pl. 2; *Jerd., B. Ind.* iii. p. 583, No. 827; *Hume, Nests and Eggs Ind. B.*

p. 545; *id.*, *Str. F.* vii. p. 156; *Hume and Marsh.*, *Game Birds* ii. p. 117.—  
The ROCK BUSH QUAIL.

Upper plumage brownish rufous, the feathers minutely freckled and lineated with black and tawny; feathers of the head and neck tipped with black; some of the scapulars and wing coverts with irregular black blotches; primaries dark brown, with tawny bars on their outer webs; tail with the lateral feathers also barred; supercilium from the base of the bill over the eye bordered by dusky, and another shorter one from the gape; cheeks, sides of the face, chin and throat bright rufous; under surface of the body, including the sides of the neck white, with numerous cross bars of black; flanks tinged with rufous; also the lower belly and thigh coverts. Bill dark slaty; irides brown; orbits pale; legs red.

*Length*.—6·7 to 7·25 inches; wing 3·1 to 3·5; tail 1·5 to 1·9; tarsus 0·75 to 1·0; bill from gape 0·5 to 0·67.

*Hab.*—The Punjab, N.-W. and Central Provinces, Central India, Rajpootana, Eastern Madras districts, Coimbatore, Mysore, throughout the Deccan, in Bundelkund, Deesa, the Panch Mahals, Kutch, Sambhur Lake, Jodhpore, and Mount Abu, but not in Sind nor anywhere in Lower Bengal. Affects rocky hills with low scrub jungle. Breeds from August to December and again in March. Eggs. 6—7, of the type of the Jungle Bush Quail.

### Gen. *Ophrysia*.—Gray.

General characters the same as those of *Perdicula*.

**1233. *Ophrysia superciliosa*** (*J. E. Gray*), *Hume, Str. F.* vii. p. 434; *id. and Marsh.*, *Game Birds* ii. p. 105; *Gould, B. Asia*, pl.—  
The MOUNTAIN QUAIL.

Lores, chin, throat and sides of the face and ear coverts deep black; forehead and a broad stripe above and behind the eye silvery grey, the feathers of the forehead paler shafted at base, and darker on the shaft towards the tip; hind head and nape light greyish brown; upper surface of the body, tail and under surface olive, tinged with grey on the breast and abdomen; all the feathers of both surfaces margined on each side with a line of black; under tail coverts black, every feather with a small tooth-like mark of white on each side near the base, a similar but larger mark about two-thirds from the base, and two coalescing oval spots of white at the tips; bill reddish; tarsi brown. Total length 9 inches; bill 0·62; wing 3·5; tail 2·75; tarsi 1·33.

*Female*.—General tint cinnamon brown, with a rufous edging to each feather; those of the upper surface with light coloured shafts and triangular mark of dull black on the inner web near the tip, preceded by a small mark of the same hue as the shafts; on the under surface the dark mark occupies the centre of the tip of each feather, and is of a lanceolate form; the throat is pale greyish cinnamon, as is also the head, where there is an indication of the

superciliary stripe seen in the male : the feathers of the crown and behind the eye being somewhat greyer than the others, and having polished shafts ; on each side of the nape a dark stripe as in the male ; tail irregularly barred with black ; under tail coverts dark cinnamon, with a stripe of black in the centre, between which and the margin is a stripe on each side, which unites with a large patch of the same hue near the tip. (*Gould, B. of Asia.*) Bill coral red ; legs and feet pinkish.

*Length*.—10 inches ; wing 3·6 ; tail 3·3 ; tarsus 1 ; bill from gape 0·58.

*Hab.*—Only known from Mussoorie in the neighbourhood of Naini Tal.

### Gen. *Microperdix*, *Gould*.

Bill red, slender, no tarsal tubercle in the male, otherwise as in *Perdica*.

**1234. *Microperdix erythrorhyncha*** (*Sykes*), *Hardw., Ill. Ind. Zool.* 2, pl. 44, f. 2 ; *Gould, B. Asia* pt. xiv. pl. xvi. *Coturnix erythrorhyncha*, *Sykes, Trans. Zool. Soc.* vol. ii., pl. i. *Perdica erythrorhyncha*, iii. p. 584, No. 828.—THE PAINTED OR RED-BILLED BUSH QUAIL.

Forehead, lores and crown of the head black ; a white frontal band continued as a supercilium over each eye ; upper plumage rich olive brown with black lunules ; scapulars, wing coverts and secondaries with large patches of black, the shafts pale yellow and some faint cross lines of the same ; primaries brown, the outer webs barred with dark rufous ; tail brown, with black spots, and barred with narrow pale lines ; beneath the chin is pure white bordered by black ; rest of lower parts rufous, passing into olive brown on the sides of the neck and with a few spots of black on the breast and side of the neck ; flanks with large spots of deep black tipped with white. Bill and legs fine red ; irides yellow brown.

*Length*.—6·5 inches ; wing 3 ; tail 1·5 ; tarsus 1. The female has the head brown, and the white parts rufous.

*Hab.*—Southern India, from the Wynaad to the Deccan in Poona Has also been obtained in Coorg and on the Neilgherries ; also at Karlee above the Khandalla Ghauts, and near Dharwar. Habits the same as Bush Quails, living in small bexies. Breeds in the Neilgherries from August to November. According to Mr. Mahon Daly, it is very common amongst the coffee on the Shevarôys, and often in rocky ground with low jungle. They go about nearly always in pairs, and not in large bexies as stated by Jerdon. They lay from 6 to 8 eggs on the ground, with just a few leaves placed around the nest. It is very daring. Mr. Daly adds that he has seen it fly at a dog in defending its brood. January to March, and again September and October, are the months in which this species breeds. The eggs are long ovals, pointed towards one end, rather glossy and spotless *café au lait*, varying in length from 1·35 to 1·45 inches, and in breadth from 0·87 to 0·95.

**1235. *Microperdix Blewitti*, Hume, *Str. F.* ii. p. 512; *id. and Marsh., Game Birds* ii p. 129, pl.—The EASTERN PAINTED BUSH QUAIL.**

Very similar to *M. erythrorhyncha*, but differs in the male having the black frontal band much narrower, and the white band surmounting it, also the supercilium, broader; the chestnut of the lower surface is much paler; the feathers of the upper breast, sides of the breast, part of the upper mandible fringed with greyish pink, with black subterminal spots much larger and more widely spread; upper surface paler brown; chin very narrowly black, or pure white. Irides brown; bill, legs and feet coral red.

*Length.*—5·9 to 6·5; wing 2·8 to 3·15; tail 1·4 to 1·6; tarsus 0·87 to 0·91; bill from gape 0·5 to 0·6.

*Hab.*—Chota Nagpur, in the Raipur, Sambulpoor, Bhandara, Mandla and Seoni districts of the Central Provinces; affects grass patches and fields in fairly large bevs. Breeds during June and July. The flesh like that of all the *Perdicina* is delicate and well flavoured.

### Sub-Family.—COTURNICINÆ.—QUAILS.

Wings long, rather pointed; bill moderate; tarsus not spurred; tail short, coriceated by the upper tail coverts.

### Gen. *Coturnix*.—Brisson.

Bill short, straight, very slightly curved at the tip; tarsi not spurred; tail short; wings long and pointed; 1st and 2nd quills longest.

**1236. *Coturnix communis* (Linn.), Bonn., *Tabl. Enc. Meth.* p. 217; *Bodd, Pl. Enl.* 170; *Ferd., B. Ind.* iii., p. 586, No. 829; *Hume, Nests and Eggs, Ind. B.* p. 549; *Blyth, B. Burm.* p. 151; *Dav. et Oust. Ois. Chine*, p. 396; *Dresser, B. Eur.* vii. p. 298; *Hume, Str. F.* viii. p. 111; *Scully, Str. F.* viii. p. 350; *Hume and Marsh., Game Birds* ii. p. 133, pl.; *Hume, Str. F.* x. p. 236 (note); *Murray, Hdbk., Zool., &c., Sind*, p. 203; *id., Vert. Zool., Sind*, p. 215; *Oates, B. Br. Burm.* ii. p. 331.—The COMMON EUROPEAN OR LARGE GREY QUAIL.**

### PLATE.

The following synopsis of the two known species will suffice to identify them:—

Primaries with pale rufous bars on their outer webs.—*C. communis*.

Primaries without pale rufous bars on their outer webs.—*C. coromandelica*.

Top of head brown, the feathers edged paler; a mesial buffy line on the crown; supercilium pale yellowish white, reaching above the ear coverts, which are partially brown; lores and a line below the eye white; sides of the neck white; two narrow blackish lines from the sides of the neck to below the throat, the interspace being white; the upper black band not always



perfect; chin and throat patch dark brown; breast pale buff, buffy white or rufous, with pale shafts to the feathers; sides of the breast and flanks similar or deeper in colour, with pale shafts; abdomen white, pale rufous, or buff; back, scapulars and upper tail coverts from brown to a rich dark brown, each feather shafted a rich rufous, or buff, with three transverse bars or bands of the same colour on each side, the tips being pale buff; *primaries dusky brown with pale rufous bars on their outer webs*; the secondaries with pale tips, and the tertials barred buffy on both webs, the borders of the buffy bars darker than the ground colour of the feathers. The female is like the male, but wants the central throat patch, and the breast is spotted with brown or dark brown. She is also much larger.

*Length*.—7 to 8 inches; wing 4 to 4·5; tail 1·6 to 2·25; irides brown or hazel; legs pale fleshy; bill blackish with a brownish horny tinge above and at the tip.

*Hab.*—Sind, Punjab, Beloochistan, Afghanistan, Persia, Arabia, the Deccan, N. Guzerat, Rajputana, Kutch, Kattiawar and Southern and Central India generally to Nepaul. A rare visitor to Burmah and in the countries S.-E. of the mouths of the Ganges, Chittagong, Arracan and Pegu, where it may be considered a straggler. It is found throughout Europe and nearly the whole of Asia. The greater bulk of these which come into India, Hume says, are migratory. They arrive from the North from Central Asia across the Himalayas, and from the west from Persia, Beloochistan, &c. Hume adds, that arrived within our boundaries, while a certain number remain scattered about, some remaining in the lower ranges and valleys of the Himalayas up to an elevation of 4000 to 5000 feet, the greater bulk move forward, southwards and eastwards, and arrive about the middle of October in Sylhet, Bengal, and the Deccan, and frequent the crops of peas, millet, &c., to the end of March; their stay, however, depends much on the supply of food. They migrate invariably at night, and evidently in large numbers at a time. Numbers are netted throughout India, for the table, for quaileries, and the cock-birds for fighting purposes,—a favourite pastime nearly throughout India amongst Mahomedans. Breeds generally in the N.-W. and Upper Provinces of India, laying six eggs, from February to April. Eggs broad ovals, a good deal pointed towards one end. The ground colour is a clear yellowish or reddish buff, thickly speckled and freckled and thinly blotched with reddish brown.

**1237. *Coturnix coromandelica* (Gmel.), *Jerd*, *B. Ind.* iii. p. 588, No. 830; *Hume, Nests and Eggs Ind. B.* p. 550; *id.*, *Str. F.* iii. p. 178; *Blyth, B. Burm.* p. 157; *Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 151, pl.; *Oates, Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 333; *Murray, Hdbk., Zool., &c., Sind*, p. 203; *id.*, *Vert. Zool., Sind*, p. 216. *Tetrao coromandelica*, *Gmel., Syst. Nat.* i. p. 764.—The BLACK-BREADED RAIN QUAIL.**

*Male*.—Top of head brown, with a longitudinal pale stripe on the crown; supercilium white, extending above and beyond the ear coverts; a white streak under the eye, followed by a dark brown one, which meets the first dark brown stripe running below the throat, and forming with its fellow on the other side a triangle, from the middle of which to the chin runs a broad throat stripe; a triangular patch of white on each side of the throat; there is also on the throat a second dark stripe behind the first, running down to the breast, the interspace between both being white; breast with a large jet black patch, some of the feathers of the lower part of which are edged with pale buff or white; sides of the breast dark rufous, the feathers pale shafted, and a few with dark spots on both webs; flanks and abdomen pale buff and white intermixed, the feathers black shafted; lower tail coverts and vent rufous; back, scapulars and upper tail coverts same as in the large grey quail, from which it may be readily distinguished by the absence of rufous bars on the first two primaries, the first primary having a pale outer edge, and by the well-defined lines on the chin and throat, and the patch on the breast, also by its much smaller size.

*Length*.—6.25 to 7 inches; wing 3.43 to 3.7; tail 1 to 1.5; irides dark brown; legs and feet pale fleshy; bill dusky black.

*Hab*.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Beloochistan, Persian Gulf, Rajputana, N. Guzerat, Kutch, Kattiawar, the Concan, Deccan, Central and parts of South India, also Dacca and Sylhet. Rain Quail visit India during the monsoon months, about the end of July, and remain to breed. The majority breed in the Deccan, Guzerat, Central India and parts of the Central Provinces. In Oudh, Behar and the N.-W. Provinces, only a very limited number remain to breed. July to October are the months in which they breed. The eggs are not unlike those of *C. communis*. They leave about the end of October or middle of November.

#### Gen. **Excalfactoria**.—Bonap.

General characters similar to those of *Coturnix*. Wings less pointed and more rounded; 1st quill shorter than the 2nd; 3rd, 4th and 5th graduating very slightly from the 2nd.

**1238. *Excalfactoria chinensis*** (Linn.), *Ferd.*, *B. Ind.* ii. p. 591; *Hume, Nests and Eggs Ind. B.* p. 553; *Salvad., Ucc. Born.* p. 311; *Oates, Str. F.* iii. p. 345; *Wald., Trans. Zool. Soc.* ix. p. 224; *Blyth, B. Burm.* p. 151; *David et Oust. Ois. Chine*, p. 397; *Hume and Dav., Str. F.* vi. p. 447; *Hume, Str. F.* viii. p. 111; *Oates, Str. F.* viii. p. 167; *Hume and Marsh., Game Birds* ii. p. 161 pl.; *Bingham, Str. F.* x. p. 196; *Oates, Str. F.* x. p. 236. *Tetrao chinensis*, Linn., *Syst. Nat.* 1. p. 277. *Coturnix chinensis*, *Legge, B. Ceylon*, p. 755.—THE BLUE-BREASTED QUAIL.

A narrow white line from the nostrils to the eye; forehead, feathers round the eye, ear coverts, breast, sides of the neck and of the body slaty blue; abdomen, vent and tail chestnut; upper plumage, wing coverts and tertiaries olive brown, marked with black and pale rufous, and most of the feathers with pale shaft streaks; primaries and secondaries plain brown; chin, throat, and cheeks black; a broad moustachial stripe from the gape white; a broad collar below the black of the throat white, succeeded by a narrow band of black. The female has the upper plumage almost similar to the male; the supercilium, forehead and throat are rufous, enclosing a dull white chin; sides of the head pale rufous, speckled with black; lower plumage pale buff; all but the centre of the abdomen barred with black. Bill bluish black; irides red; eyelids plumbeous; legs bright yellow.

*Length*.—5·7 inches; tail 1; wing 2·8; tarsus 0·8; bill from gape 0·5.

*Hab.*—Generally distributed over Eastern India and Ceylon. Occurs in Bengal, Assam, Burmah, Southern and Cochin-China, the Malay Peninsula, Sumatra, Java, and Borneo. In Ceylon it is fairly common, especially towards the south of the island. In Burmah it is generally distributed, but is nowhere common except in Pegu, where it arrives in May in large numbers. In Raipur, Mandla, and the Chanda districts, also in the Tributary Mahals, Singbhoom, Calcutta, Cachar, Sylhet, Khasia hills, as well as in the Daffa hills and in the valley of Nepaul it is fairly common. It is also recorded from Arracan. Open, swampy grassy lands or meadows are their favourite haunts, and they are seldom found far from such spots. They do not appear shy but freely come into the open to feed. Breeds in Pegu, Cachar, Purneah, and the Sub-Himalayan districts from Sikkim to Kasauli. Lays from June to the 1st or 2nd week in September. Eggs, 5—6, broad ovals, of the shape of those of the Common Black Partridge, *café au lait* tinged with olive in colour. In size they vary from 0·95 to 1·04 in length and from 0·7 to 0·81 in width.

### Family, TINAMIDÆ.

Bill short, rather slender, and very slightly curved at the tip; tail short or none; tarsi not spurred; hind toe small or wanting.

### Gen. **Turnix**.—*Bonap.*

Characters the same as those of the Family; nostrils linear; 1st quill longest; no hind toe.

**1239. Turnix plumbipes** (*Hodgs.*), *Hume, Nests and Eggs Ind.* B. p. 554; *Blyth, B. Burm.* p. 152; *Oates, Str. F.* v. p. 164; *Anders., Yunnan Exped.*, p. 673; *Hume and Dav., Str. F.* vi. p. 450; *Hume, Str. F.* viii. p. 111; *Scully, Str. F.* viii. p. 350; *Hume and Marsh., Game Birds* ii. p. 177, pl.; *Oates, Str. F.* x. p. 236; *id., B. Br. Burm.* ii. p. 337. *Hemipodius plumbipes*, *Hodgs., Beng. Sport. Mag.* ix. p. 345. *Turnix ocellatus* (*Scop.*),

*Ferd., B. Ind.* ii. p. 597, No. 833. Turnix pugnax (*Temm.*), *Hume, Str. F.* iii. p. 178; *id., Nests and Eggs Ind. B.* p. 553. Turnix taigoor, *Sykes, Trans. Zool. Soc.* 2, pl.; *Ferd., B. Ind.* iii. p. 595, No. 832; *Hume and Marsh., Game Birds* ii. p. 169, pl.—THE INDO-MALAYAN BUSTARD QUAIL.

Above rufous with transverse black lines and pale yellow streaks; below rufescent or pale ferruginous, becoming chestnut on the flanks and undertail coverts; the foreneck, breast and sides of the body lunated with black.

The *female* is a much larger bird, and the plumage is darker; the crown and sides of the head, the sides and back of the neck are spotted with white; chin, throat and breast black; sides of the breast and body lunated with black. Legs and feet plumbeous or pale leaden; irides pearly grey.

*Length.*—5.6 to 6.25; wing 3.12 to 3.5; tail 1.0 to 1.4; tarsus 0.95 to 1.12; bill from gape 0.7 to 0.81.

*Hab.*—Throughout India nearly (except Sind, Kathiawar and Jodhpoor, and other similar dry places-), extending to Ceylon, Burmah, the Malay Peninsula, Siam, and Cochin-China. It frequents gardens, land covered with grass, also bushes, roadsides, &c. Breeds in July and August, wherever it occurs, laying 4—6 eggs, of a stone grey colour, irrorated with small specks of brown interspersed with larger spots of a neutral tint.

It will be seen that I have made *T. taigoor* a synonym of *T. plumbeipes*. There can be no doubt of both species being identical; the rufous tint of the Malayan race can only be considered as climatic. There are no other characters which could be considered sufficient to warrant a separation.

**1240. Turnix joudera** *Hodgs., Beng. Sport. Mag.* 1838, pl. 1, fig. 1; *Ferd., B. Ind.* iii. p. 599, No. 834; *Str. F.* vii. p. 453; *Hume, Nests and Eggs Ind. B.* p. 556; *id. and Marsh., Game Birds* ii. p. 187, pl. Turnix Dussumieri, *apud Ferd.*, viii. p. 599.—THE INDIAN BUTTON QUAIL.

*Male.*—Top of head light brown with a faint longitudinal streak on the crown; back of neck, back and scapulars ferruginous brown, the feathers behind the head with dark spots, and those of the back, scapulars and under tail coverts with narrow transverse striæ, distinct on the lower part of the back; scapulars with a few white spots or edgings to the feathers; wing coverts pale earthy brown, the tips broadly white, each with a dark ocelli in the centre; primaries pale earthy brown, narrowly edged with pale white; chin and upper throat white; middle of breast ferruginous, the sides of the breast like the scapulars, with white tipped feathers, in the middle of which is a dark spot; under parts ferruginous; vent whitish.

*Length.*—5.5 to 6 inches; wing 2.75; bill at front 0.43.

*Hab.*—Sind, Punjab, N.W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Deccan, South India; Kutch, Kathiawar, N. Guzerat, Rajputana and Punjab during the rains; rare in the Deccan and sparingly distributed in

Bengal; affects chiefly large open grassy plains; occurs also in South Travancore, and probably in Ceylon.

**1241. Turnix Dussumieri** (*Temm.*), *Blyth, Ibis*, 1867, p. 161; *Hume, Nests and Eggs Ind. B.* p. 556; *David et Oust. Ois. Chine*, p. 397; *Hume, Str. F.* viii. p. 111; *Hume and Marsh, Game Birds* ii. p. 193, pl.; *Oates, Str. F.* x. p. 237; *id.*, *B. Br. Burm.* ii. p. 336. Hemipodius Dussumieri, *Temm., Pl. Col.* 454, fig. 2. Hemipodius Sykesi, *Smith, Ill. S. Afr. Zool. Aves. Sub.* tab xvi.; *Murray, Hdbk., Zool., &c., Sind*, p. 204; *id.*, *Vert. Zool., Sind.*, p. 217.—THE LITTLE BUTTON QUAIL.

*Male*.—Head brown, barred with black, and with a central longitudinal yellowish stripe; supercilium pale white or yellowish white; back and scapulars chestnut brown, the feathers with fine dark transverse striæ and edged with yellowish white; rump and upper tail coverts dark brown, closely barred with black, the feathers with whitish edges; throat white, with a few dark spots on the sides; breast pale ferruginous, the feathers on the sides with dark spots or lunules; abdomen whitish.

*Length*.—5 to 5·5 inches; wing 2·75; irides light yellow; legs and feet pale fleshy.

*Hab*.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, and the Concan during the monsoon, in grassy plains or cultivated fields. In the Deccan it is very numerous and difficult to flush from the fields of pulse which it affects. Said to breed in the Himalayas and N.-W. India.

**1242. Turnix maculosa** (*Temm.*), *Hume, Str. F.* ii. p. 281; iii. p. 179; *Hume and Dav., Str. F.* vi. p. 452; *Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 183, pl.; *Bingham, Str. F.* ix. p. 196; *Oates, Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 335. Hemipodius maculosus, *Temm., Fig. et Gall.* iii. p. 631. Turnix maculatus *Vieill., Nouv. Dict. d'Hist. Nat.* xxxv. p. 47; *David et Oust. Ois. Chine* p. 398. Turnix Blanfordi, *Blyth, J. A. S. B.* xxxii. p. 80; *Blyth and Wald., B. Burm.* p. 151.—BLANFORD'S or the BURMO-MALAYAN BUTTON QUAIL.

Upper plumage rufous, black and yellow, the first two colours preponderating, and the yellow disposed in oval drops not streaks; wing coverts yellowish-buff, with large black spots; hind neck and upper back rufous, forming a broad collar; crown of the head blackish with a pale rufous mesial line; sides of the head buff, barred with black; chin and throat buffy white; breast, sides of the body, vent, flanks and under tail coverts ferruginous; sides of the breast and sides of the body with large ovate or round spots of black. (*Oates*.) Legs yellow; upper mandible dark brown; lower mandible and gape pale brown, tinged with yellow; irides white.

*Length, Male*—6·5 inches; female 7; wing 3·62; tail 1·5; tarsus 1; bill from gape 0·75.

*Hab.*—Tenasserim, in Pegu, Arracan, and Hill Tipperah. Found about gardens or in the immediate vicinity of cultivation. It is said to be hard to flush, and only flies a short distance before again dropping. It is everywhere thinly distributed, and is a terrible skulk, like *jouldera*, an allied species which is barely separable from this. Nothing is known of its habits or nidification.

**1243. *Turnix albiventris*.** *Hume, Str. F.* i. p. 310; ii. p. 281; *id. and Marsh., Game Birds.* ii. p. 199, pl.—The NICOBAR BUTTON QUAIL.

Lores and a circle round the eye pale fulvous; base of bill and two stripes along the crown to the nape black, the feathers narrowly margined with chestnut; ear coverts fulvous, tipped darker; sides of the neck fulvous buff, spotted with black; sides and back of the neck, interscapular region and scapulars bright chestnut, more or less variegated with yellowish white and black; lower back and rump, also the upper tail coverts blackish brown, the feathers tipped with chestnut, and a subterminal freckled bar of the same colour; tail feathers greyish brown with obsolete blackish brown bars; primaries, secondaries and greater coverts pale satin brown, the outer web of the first nearly white; rest narrowly edged with pale fulvous; tertiaries pinkish-brown, mottled with blackish brown towards their tips, and with a yellowish brown spot there on the outer webs; most of the secondary coverts pale buff, with blackish brown irregularly shaped spots near the tips; chin and upper portion of the throat pure white; rest of throat and middle of breast light ferruginous; sides of the breast pale buff, with regular narrow transverse blackish brown bars; middle of abdomen white; sides, vent, tibial plumes, flanks and lower tail coverts tinged buffy. The female has the black stripes on the head, edged with white and not chestnut; the stripe dividing them is also white; back of the neck and upper back occupied by a broad, intensely bright chestnut collar, entirely unmarked and unspotted; ear coverts, sides of the head, and a line under the eye pale fulvous, dotted with black; entire chin, throat and upper breast bright ferruginous; rest of the plumage like that of the male; irides white; legs and feet yellow, tinged orange; upper mandible horny brown, yellowish at gape; lower mandible yellow, tipped horny.

*Length.*—6 inches; wing 3; tail 1·4; tarsus 0·9; bill from gape 0·7.

*Hab.*—Port Blair in the Andamans; also the Nicobar Islands.

## ORDER, GRALLATORES,—WADERS or SHORE BIRDS.

Tarsi long, rounded; tibia bare to a greater or less extent; hind toe imperfect in most or absent; wings long; neck long or of moderate length, generally in proportion to the length of the legs; bill variable in size and structure. All, except the Ostriches and Emeus (which do not fly) fly well, and stretch their legs out behind them during flight.

### Tribe, PRESSIROSTRES.—*Cuvier*.

Hind toe small, absent or moderate; bill depressed at base, and rather compressed on the sides. It comprises the *Otidæ* or Bustards and *Floricans*;

the *Cursoridæ*, or Courier Plovers; *Glareolidæ* or Swallow Plovers; *Charadriidæ* or Sand Plovers; *Hæmatopodidæ* or Shore Plovers, and the *Gruidæ* or Cranes.

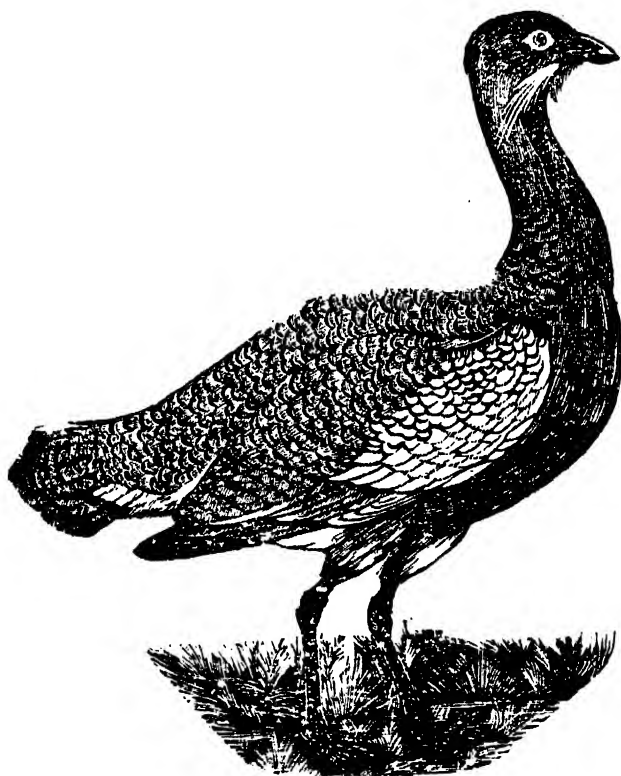
### Family, OTITIDÆ.

Bill compressed, the tip scooped, and slightly curved; nostrils in a membranous groove, partially closed; wing, 2nd to 4th quills longest; tertials nearly as long as the primaries; tarsi reticulated; hind toe absent; plumage mottled fulvous and black. Food insects, young shoots, and grain. As game all the members of the family Otitidæ are eagerly sought after. For the table there is scarcely any other bird so succulent and delicious.

#### Gen. *Otis*.—*Lin.*

Bill moderately long, pointed and nearly straight; legs long, and strong; tarsi reticulated; claws short and blunt; wings ample; moustachial tufts long.

**1244.** *Otis tarda*, *Linn.*, *Syst. Nat.* ii. p. 279; *MacGillivray*, *B. Eur.* iv. p. 31; *Hume*, *Str. F.* vii. p. 434; *id.* and *Marsh.*, *Game Birds* p. i. pl.—The EUROPEAN BUSTARD.



*Otis tarda.*

Head and upper neck all round are light greyish-blue ; on the upper part of the head is a longitudinal brown band ; the elongated moustachial feathers white ; the lower part of the neck interiorly is pale yellowish red ; the forepart of the breast pale greyish blue, fading into white, of which colour are the other lower parts, excepting the sides of the lower neck and body, which are light yellowish red, barred with black, each feather having two subterminal unequal bars, and generally several spots ; the tail feathers are similar, but tipped with white, and having the base of that colour ; the outer wing coverts, secondary coverts, and inner secondary quills are white, the former tinged with grey ; the primary quills brownish black, with the shafts white.

*Male*.—Bill pale yellowish brown, darker on the ridge ; iris hazel ; feet light brown, as are the claws.

*Length*.—To end of tail from 40 to 48 inches.

*Female*.—The female is much inferior in size to the male, generally weighing only ten or twelve pounds ; there are no elongated feathers on the sides of the head ; the bare parts are coloured as in the male ; the upper part of the head is yellowish red, barred with black ; the foreneck greyish blue, without any red at its lower parts ; the colouring of the other parts as in the male ; but the black markings on the back and tail more numerous.

*Length*.—To end of tail about 35 inches. (*MacGillivray*, vol. iv., p. 31.)

*Hab*.—According to Hume, has only once occurred within our limits in 1870, north of the Kabul river in Hasnagar, within a few miles of the most north-westerly point of British India proper in Lat. 34° N. and Long. 71° 45' E.

**1245. Otis tetrax**, *Lin., Syst. Nat.* iii. p. 279 ; *MacGillivray, B. Eur.* iv. p. 31. ; *Hume, Str. F.* ii. p. 423 ; *id. and Marsh., Game B.* p. 4. pl.—The LESSER BUSTARD.

*Male in Summer*.—Upper part of the head and the nape are pale reddish yellow, thickly variegated with longitudinal and transverse brownish black markings ; sides of the head and throat to the length of two inches greyish-blue, with an inferior black margin, succeeded by a narrow ring of white, extending more than an inch downwards in front in a pointed form ; middle of the neck, all round, for the length of two inches and a half, deep black, succeeded below by a half collar of white and another of black ; all the lower parts white, excepting some feathers on the fore and lateral parts of the breast, which are similar to those of the back. Upper parts, including the back, scapulars, many of the small wing coverts, with the inner secondaries and their coverts, light reddish yellow, beautifully undulated transversely with brownish black ; the upper tail coverts with white in place of yellow ; wing with a broad band of white, commencing at the carpal joint, including the alula ; eight of the outer secondary quills and their coverts are white at the base, chocolate brown and mixed with grey towards the end, with the tip white, which



becomes gradually more extended on the inner primaries, of which the tenth has only a narrow band of brown near the end; tail feathers are also white at the base and tip; in the rest of their extent pale yellow, undulated with black, and having three distinct transverse bands of the latter colour, the lateral feathers gradually becoming more white, and losing one of the black bands.

Bill brown, greyish blue at the base, the ridge and tips dusky; irides reddish yellow; feet light brownish grey; scutella of toes darker; claws dusky.

*Length*.—To end of tail, 18 inches; bill along the ridge, 1, along the edge of lower mandible 1'33; wing from flexure 10; tail 4'25; bare part of tibia 1; tarsus 2'66.

*Female*.—The female, which is about the same size, differs in having none of the blue or black so conspicuous on the neck of the male; the upper part of the head, its sides, and the neck all round, are pale reddish yellow, variegated with dark brown, each feather having a broad median longitudinal band and several transverse bars; throat yellowish white; upper parts as in the male, many of the feathers with large patches of black in the middle; wings and tail as in the male, but with the white less extended and barred with black; lower parts yellowish white; feathers of the breast and sides with transverse black lines; lower tail coverts black shafted. In winter the male resembles the female. (*Mac Gill*.)

*Hab*.—The Punjab and N.-W. Provinces. A regular and tolerably abundant winter visitant. Said to breed in Afghanistan.

### Gen. **Eupodotis**.—*Less*.

Bill long, pointed, straight, the tip curved; legs long and strong; male with a pouch; wings ample.

**1246. Eupodotis Edwardsi**, *Gray, Ill. Ind. Zool.* pl. 59; *Gould, C. B.* pl. 72; *Ferdon, B. Ind.* iii. p. 607; *Murray, Hdbk., Zool., &c., Sind*, p. 204; *id., Vert. Zool. Sind*, p. 217; *Hume and Marsh., Nests and Eggs* iii. p. 557; *id., Game Birds*, i. p. 7, pl. (*Tokdar, Sind*.)—The INDIAN BUSTARD.

*Male*.—Top of head and crest black; sides of the face, neck all round, breast and entire lower parts white; the feathers of the breast and lower part of the neck long and hackled, those of the breast covered with minute dusky mottlings; a dark band across the breast; back, scapulars, wing and upper tail coverts brown, pale buff, or grey brown, beautifully mottled and vermiculated with minute black striæ; primaries snuff brown, darker on their inner webs, and tipped with white; some of the inner ones with 3—4 white patches on their inner webs; secondaries slaty, much irrorated basally, and broadly tipped with white; tertials as long as the primaries, concolorous with the back, also the lesser wing coverts; median coverts black, tipped with white;

greater wing coverts slaty grey, also tipped with white. Tail like the back with a subterminal dark band and tipped with white; flanks and sides dark brown, mixed with whitish or dark olive brown; vent and lower tail coverts the same as the back, with white tippings to the feathers.

*Male, Length.*—45 to 50 inches; expanse of wing 85—95 inches; wing 24·5 to 29; bill from gape 4 to 4·75; tarsi 7·5.

*Female, Length.*—36 to 38 inches; wings 20 to 22; legs and feet creamy yellow; irides yellow; bill yellowish at tip, dusky at the base.

*Hab.*—Sind (Thurr and Parkur), Punjab, N.-W. Provinces, Kutch, Rajputana, N. Guzerat, Kattiawar, Jodhpore, Hyderabad (Deccan), Poona, Satara, Berars, and the Central Provinces. According to Mr. Doig, (*Hume, Game Birds*), it is a permanent resident and breeds in the Thurr and Parkur districts. It is said to wander occasionally in the cold weather to the plains along the edge of the desert, sometimes going even as far as the Indus. It feeds on grain and insects, and frequents the cultivated districts at other than in the breeding season. Jerdon has an excellent description of its habits, &c. Breeds from July to September, laying from one to two eggs in a depression in the ground behind tufts of grass or small bushes, lined very sparingly with thin grass.

### Gen. **Houbara**.—*Bonap.*

Legs shorter than in *Eupodotis*; bill rather lengthened and depressed at the base; males with a ruff; no hind toe.

**1247. Houbara Macqueenii**, *Gray, Ill. Ind. Zool.* pl. 47; *Gould, B. As.* pl. 8; *Jerd., B. Ind.* iii. p. 612; *Murray, Hdbk., Zool., &c., Sind*, p. 204. *id., Vert. Zool. Sind*, p. 218; *Hume and Marsh., Game Birds Ind.* i. p. 17. (*Tilloo, Sind.*)—The HOUBARA BUSTARD.

*Male.*—Head crested; forehead minutely speckled with greyish brown and white; crown with a crest of elongate feathers, which are white at the base and tipped black; the feathers behind the crest resting immediately on the crown entirely white; head behind, ear coverts and neck pencilled with pale brown and white. The ruff begins immediately behind the ear coverts with elongated feathers, one-half of which are white at the base for more than one-half their length, and the rest shining black; the lower half of the ruff entirely white, the upper half edged behind and in front with black, rather lax feathers; back and scapulars buff or rufous buff, delicately pencilled with dark brown, each feather with two dark bands, the hinder band only being visible externally; upper tail coverts with 3—4 narrow dark bands, which are distant from each other about an inch; tail brighter rufous or buff, with the same pencillings, the feathers with three bluish ashy bands, and the tips white;

under tail coverts white, some of the feathers with transverse bands and brownish mottlings; chin, throat and cheeks white, the feathers of the latter with dark tips; feathers of the lower neck and breast grizzled with pencillings, the elongated feathers on the breast pale bluish white, with dark shafts; rest of the lower surface white, also the axillaries and wing lining; primaries white at their base, and black for the terminal half, except the 1st primary, which in some specimens are dark brown on the outer web; lesser wing coverts whitish with very fine vermiculations; winglet black; bill horny brown; irides bright yellow; legs greenish yellow.

*Length*.—25 to 32 inches; wing 14 to 15; tail 8.5 to 10. In non-breeding plumage the male has no crest nor the elongated black and white feathers, but the dark lax feathers are well developed in their place.

*Hab.*—Sind, Persia, Beloochistan and Afghanistan, Punjab, N.-W. and Central Provinces, Rajputana, Kutch and Guzerat, also Kattiawar.

In Sind, this fine bird is extremely common during winter, affecting chiefly the large plains and hill sides covered with *Grewia* bushes, on the fruits of which they principally live. It is usually found in parties of 2, 4, or 6, and, as game, is much sought for by all sportsmen. It is also largely hawked by the Sindees, *Falco sacer*, *Fuggur* and *peregrinus* being used for the purpose. It is found all over the plains of the Punjab, also in Beloochistan, Southern Persia and Afghanistan; breeding in Persia and Afghanistan, where it occurs in the summer. In Rajputana too it has been found, also in Kutch, Northern Guzerat and Kattiawar. The following, extracted from *The Field*, entitled "Oobara shooting in Lower Sind," I think by "an old Sindee," gives a fair account of the mode of shooting this Bustard. He says:—"So far as my experience goes, the Oobara, which may be briefly described as a bird of the Bustard tribe, is chiefly to be found in Sind. I have occasionally come across a solitary one or two in Rajputana and Guzerat, and I also presume they are to be met with in many parts of the Punjab, and, in fact, perhaps anywhere where large sandy plains exist. They are, I believe, seldom, if ever, to be found in black soil.

"The Oobara is a migratory bird, coming in with the cold weather, and disappearing at the first approach of the hot season. They are usually to be found in pairs, and feed early in the mornings and late in the evenings. At these times they are so wary, as seldom to be got at even by careful stalking. They appear, however, to be peculiarly susceptible to heat, as the moment the sun attains any power they retire into the shade of a bush, and, if undisturbed, lie quiet throughout the heat of the day, or if flushed, only take short flights. This is the time to get them, and the usual method is by stalking them on a well-trained camel, driven by an experienced shikaree. The camel is made to circle round and round the bird, and the moment the bird perceives this it

crouches down, trusting to its colour, which is exactly that of the ground, and to being so exactly similar when in this position to the several stones lying around it, to escape observation. The circle gradually becomes smaller and smaller, until the bird is brought within range. Most men shoot it on the ground, but as a rule I have found it better sport and easier to let the bird rise before firing, and then dropping it on the wing. The bird fancying that (like an ostrich) when its head is hidden its whole body is out of sight, seldom, if ever, moves unless the camel stops in its circling, and even then its flight is so slow, as to make it almost impossible even for an ordinary shot to miss.

“As a game bird, the Oobara is perhaps one of the greatest delicacies that can be put upon the table, while its feathers are invaluable to the fishermen for salmon flies; and there is a little tuft of feathers just under the point of the shoulder which is greatly prized by the fair sex as an ornament for hats.

“All about Kurrachee is a very favourite country for Oobara, but, as may be imagined, anywhere within a radius of eight or ten miles they do not get much rest, and, in order to make a really good bag, it is now necessary to go beyond that distance. The nearest good spot I know of, where a day's sport can be had without finding another man stalking over the same plain, is about twenty-five miles by rail.” At Mayting and Jempeer stations, on the S. P. and D. line, this Bustard is numerous, and it is not uncommon to see a bag from these places of from 10 to 12 a day.

#### Gen. *Sypheotides*.—*Lesson*.

Bill broad at base and ridged above; nostrils elongate; more than half of tibia bare.

**1248. *Sypheotides bengalensis*** (*Gmel.*), *Ferd.*, *B. Ind.* iii. p. 616; *Hume, Nests and Eggs Ind. B.* p. 559; *id. and Marsh., Game Birds* i. p. 4 pl. *Otis deliciosa* (*Gray*), *Hardw., Ill. Ind. Zool.* i. pls. 61 and 62. *Otis himalayanus*, *Gould, Cent. Him. B.*, pls. 73, 74, 75.—THE BENGAL FLORIKIN.

In breeding dress the male has the whole head, which is fully crested, neck, breast, and lower parts with the thigh coverts glossy black; the breast feathers elongated, and those of the neck in front also elongated; back, scapulars, tertiaries, rump and upper tail coverts rich olive buff, closely and minutely mottled with black zigzag markings, and a black dash in the centre of each feather; shoulders, wing coverts and quills white, the tips, shafts and outer edges of the first three primaries black; tail black, minutely mottled with buff and with a broad white tip. Bill dusky above, yellowish beneath; irides brown; legs pale dirty yellowish. (*Ferd.*)

*Length*.—24 to 27 inches; wing 14; tail 7; tarsus 6; bill at front 1.25. The female has the whole upper plumage pale fulvous with black and brown mottlings, barrings and vermiculations; ear coverts whitish.

*Hab.*—Throughout Lower Bengal, parts of the Punjab, N.-W. Provinces, Oudh, Dacca, Hill Tipperah, Sylhet, Assam and northward to the foot of the Himalayas. Breeds in Sikkim and Nepaul, from May to July. Eggs two in number, variable in shades of colour—pink, brown and stone colour, blotched and freckled all over with dark brown.

**1249. *Sypheotides auritus* (Lath.), *Fard. and Selby, Ill. Orn.* pls. 49, 92; *P. C.* 533; *Ferd., B. Ind.* iii. p. 619, No. 839; *Hume, Nests and Eggs Ind. B.* p. 561; *id. and Marsh., Game Birds* i. p. 5, pl.; *Murray, Habbk., Zool., &c., Sind*, p. 207; *Str. F.* vol. iv. p. 10; *id., Vert. Zool. Sind*, p. 221. (*Likh, Sind.*)—THE LESSER FLORIKIN.**

*Male*.—Head, neck, breast, ear tufts and entire lower parts black, paler on the vent and under tail coverts; chin white, a few of the elongated feathers under the chin white mesially; lower part of hind neck and large wing patch white; back, scapulars and upper tail coverts fulvous, mottled with buff and dark brown; tail brighter buff, with mottlings and three distinct bands, the last subterminal; first three or four primaries dark or dusky brown, the rest broadly barred with rufous or bright buff, the long narrow tips mottled; ear tufts three on each side, the shafts of the feathers bare for nearly three-fourths their length from their base.

The *female* is pure buff throughout, clouded and barred with deep brown; lower part of the body almost white; chin and throat white; bill pale yellow, the ridge and tip dusky brown; irides yellow.

*Length*.—17 to 19 inches; wing 7 to 7.8; tail 4 to 4.5. *Female* slightly larger.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Central and Southern India, Kutch, Kattiawar, Rajputana, Concan and the Deccan during September and October. Eggs, 4—5 in number, greenish of various shades in colour, everywhere pitted with minute pores, but smooth and glossy. In Sind it occurs only in the vicinity of Kurrachee during August and September, chiefly at Mulleer, affecting the high grass. It breeds in the Deccan. In Sind a single egg was found on the Hubb plains by Mr. F. C. Constable.

### **Family, CURSORIDÆ,—COURIER PLOVERS.**

Tarsi long, slender; bill slender, arched beyond the nostrils, which are in a short triangular groove; wings long and pointed; tail short of 12 feathers; toes three; no hind toe.

Gen. **Cursorius**.—*Lath.*

Bill moderately long; tarsi long and slender, scutellated; 1st and 2nd quills longest; tail short.

**1250. *Cursorius coromandelicus*, Gmel., *Syst. Nat.* i. p. 781; *Bodd.*, *Pl. Enl.* 892; *Gould, B. As.* pl. 37; *Jerdon, B. Ind.* iii. p. 626, No. 840; *Hume, Str. F.* iv. p. 19; *id.*, *Nests and Eggs Ind. B.* iii. p. 564; *Murray, Hdbk.*, *Zool.*, &c., *Sind*, p. 207; *id.*, *Vert. Zool. Sind*, p. 221.—THE INDIAN COURIER PLOVER.**

Forehead and top of head bright chestnut, a small patch of black on the nape; supercilium white, extending to and meeting behind the nape; a black streak from the base of the nostril and through the eye, also extending and meeting behind; chin and throat white or pale buffy white; neck all round pale ferruginous, darkening into deep ferruginous on the breast and upper abdomen; a dark patch in the middle of the abdomen; primaries and their coverts black; under tail coverts white; back, scapulars and wing coverts earthy brown; upper tail coverts the same; tail with the outer feathers on each side white, with a black edge subterminally on the inner web; rest, except the middle tail feathers, ashy brown at base, with a subterminal dark band and a white tip; bill black; irides brown; legs creamy white.

*Length*.—9 to 10 inches; wings 6; tail 2' 37; tarsus 2' 25.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Beloochistan, N. Guzerat, Rajputana, Kutch, Kattiawar, Concan and Deccan, also Southern India, affecting open grassy plains, feeding on grass seeds, insects, &c. They are extremely shy, and run with great speed, now and again stopping dead to look back, and when pressed do not fly far. Breeds from March to July, under some tuft of grass or bush, laying 3—4 eggs of a cream or bright buff colour with patches, spots, blotches and smears of pale inky grey either all over or on only some portion of the egg; the markings above this are narrow scratches and streaks of blackish brown.

**1251. *Cursorius gallicus*, Gmel., *Syst. Nat.* i. p. 784; *Naum.*, *vogl.* t. 171; *Gould, B. Eur.* pl. 266; *Jerd.*, *B. Ind. App.* vol. iii. p. 874; *Hume, Str. F.* i. p. 228; iv. 11; *id.*, *Nests and Eggs Ind. B.* p. 566; *Murray, Hdbk. Zool.*, &c., *Sind*, p. 207; *id.*, *Vert. Zool.*, *Sind*, p. 221.—THE CREAM-COLOURED COURIER PLOVER.**

Forehead and crown rufescent or pale orange buff, shading on to the back of head into grey or ashy grey, below which, on the nape, is a small black patch; supercilium white, extending to and meeting behind the nape, also a black streak from behind the eye; lores pale white; chin and throat pale white; breast isabelline brown, fading on the abdomen to albescent, and white on the under tail coverts; back, scapulars, tertials and wing coverts warm rufous buff, brighter on the tail, the outer feathers of which on each side have a

subterminal black band on the inner web only; the others on both webs, and all, except the central tail feathers, broadly tipped white; primaries black; secondaries with their outer webs concolorous with the back, the inner web, and subterminally on both webs also black, the edges of the tips white.

*Length*.—10·5 to 11 inches; wing 6·5 to 7; bill black, 1·06 in length in front; irides brown.

*Hab*.—Sind, Punjab, N.-W. Provinces, Oudh, Beloochistan, Persia, Afghanistan, Kutch, Guzerat and Rajputana. Breeds in similar situations as *C. coromandelicus* from May to July. Eggs broad ovals, slightly compressed towards one end. In colour they are not unlike those of *C. coromandelicus*. In size they vary from 1·1 to 1·28 in length and from 0·9 to 1·04 in breadth. Extremely common on bare or open grassy plains.

### Gen. *Rhinoptilus*.—*Strickland*.

Bill shorter and more robust than in *Cursorius*, straight, the tip slightly widened and curved; orbits feathered; 2nd and 3rd primaries sub-equal and longest; tarsus long, scutellate; feet short; outer toe joined by web.

**1252. *Rhinoptilus bitorquatus*, *Jerd*, *Birds. Ind.* iii. p. 628, No. 841; *Blyth*, *J. A. S. B.* xvii. p. 254.**—THE DOUBLE-BANDED PLOVER.

Above sandy brown with a faint pink gloss; the feathers of the back slightly margined with rusty brown, and the wing coverts with pale rufescent and rusty lateral margins to the feathers; supercilium white, continued round the occiput; ear coverts streaked dusky and ferruginous; throat white, a broad rufous band below it, bordered by a white demi-collar, and followed by a broad brown gorget and another white collar margined above and below with dusky; this again is succeeded by brown, forming an ill-defined band on the lower part of the breast; rest of the lower parts isabeline; upper and lower tail coverts white; primaries and their coverts black, the first two obliquely marked with white, which on the 3rd primary is reduced to a large subterminal spot on the inner web; tail white at base, black terminally; all, except the middle feathers, with a small white spot at the tip on the inner web. Bill yellow at base, horny at tip; irides dark brown; legs pale fleshy yellow. (*Jerd*.)

*Length*.—9·5 to 10 inches; wing 6·75; tail 3; tarsus 2·6.

*Hab*.—Eastern Ghauts, off Nellore and in Cuddapah. Frequents rocky and undulating ground with thin scrub jungle.

### Family, GLAREOLIDÆ.—SWALLOW PLOVERS.

Bill short, convex, broad at the base, compressed to tip; wings long, first quill longest; tail even or forked; tarsi short, reticulated; three toes in front, one behind, very small; gape large.

Gen. **Glareola**.

Tail short and even, or long and forked; other characters as in the family.

**1253. *Glareola orientalis*, Leach., Lin. Tr. xiii. 132; Gould, B. As. vi. pl. 23; Schiel., Handlist Dierk. t. 7, 79; Jerdon, B. Ind. iii. p. 631; Str. F. ii. pp. 284, 465; viii. p. 371; Murray, Hdbk., Zool., &c., Sind, p. 208; Hume, Nests and Eggs Ind. B. p. 568; Legge, B. Ceylon, p. 980; Bingham, Str. F. ix. p. 196; Oates, Str. F. x. p. 237; Kelham, Ibis, 1882, p. 6; Oates, B. Burm. ii. p. 361; Murray, Vert. Zool., Sind, p. 222.—THE LARGE SWALLOW PLOVER.**

Forehead, crown, back of head, sides of neck, ear coverts, back, scapulars and wing coverts hair brown; upper tail coverts white; tail forked, basally white, the feathers broadly tipped with dark brown; chin and throat rufescent, a few of the feathers in some specimens tipped dark brown; a dark line from each side of the mandible to below the neck, enclosing the rufous chin, throat and breast; upper abdomen and flanks earthy brown, with a tinge of rufescent; lower abdomen, vent and under tail coverts white; axillaries and under wing coverts behind chestnut; primaries dark brown, almost black; the shaft of the first primary white; a few of the upper secondaries tipped white; irides dark brown; bill black; gape reddish; legs and feet dusky brown.

*Length*.—10 to 10·5 inches; wing 7·5; tail 4·25 to 4·5.

*Hab.*—Sind, Bengal and the Deccan, and throughout Burmah in suitable localities from February to June. Occurs in Mongolia and China, also Cochin-China, the Malay Peninsula, and Ceylon. Affects fields and open or cultivated land in small flocks. It has, like its congeners, a very rapid and swallow-like flight. Breeds in Sind. Mr. S. Doig, in an article in *Stray Feathers*, vol. viii., p. 375, gives an account of its nidification in company with *Glareola pratincola*. "The breeding ground," he says, "was about 15 acres in extent, and was a salt plain with patches of coarse sedge here and there on it, the whole being surrounded by dense tamarisk and rush jungle, and was situated about half a mile from the bank of the 'Narra.' The nests were slight hollows scraped in the ground, and the greatest number of eggs in any nest was three, which seemed to be the normal number, but some contained only two eggs, of a light dirty green or drab colour, covered all over with dark purple blotches, dense at the broader end, and forming a zone. In shape they are from broad ovals to nearly spherical, and vary in size from 1·1 to 1·35 in length, and from 0·8 to 1·05 in width."

The distribution of the *Glareolidæ* in India is not perfectly known.

**1254. *Glareola pratincola*, Linn., Syst. Nat. i. 345; P. E. 882; Naum. vogl. t. 234; Gould, B. E. pl. 265; Leach, Linn. Trans. xiii. pl. 12., 1, 2; Str. F. viii. p. 371; Murray, Hdbk., Zool., &c. Sind, p. 207; id.,**



*Vert. Zool. Sind*, p. 223. *Glareola torquata*, *Meyer*, ii. 404.—The COLLARED PRATINCOLE.



*Glareola pratincola*.

Head, nape, back, scapulars and wing coverts greyish brown; throat and front of the neck white, slightly tinged ferruginous, encircled by a narrow, black band from the base of the bill; lores black; breast whitish brown; under wing coverts chestnut; lower surface of the body white, tinged with reddish; upper and under tail coverts white; tail forked, basally white, tipped with dark brown; bill black, red at the gape; irides red brown.

*Length*.—9 inches; wing 6·75 to 7.

*Hab*.—Sind, Arabia, Persia, Afghanistan and the Deccan. Breeds in Sind; eggs similar to those of *G. orientalis*.

**1255. *Glareola lactea*, Tem., *Pl. Col.* 399; *Ferd.*, *B. Ind.* iii. p. 632; *Hume, Nests and Eggs Ind. B.* p. 568; *Str. F.* iii. p. 179; *Blyth, B. Burm.* p. 154; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon*, p. 984; *Oates, Str. F.* x. p. 237; *id.*, *B. Br. Burm.* ii. p. 363; *Murray, Hdbk., Zool., &c., Sind*, p. 208; *id.*, *Vert Zool. Sind*, p. 223.**—The SMALL SWALLOW PLOVER.

Forehead, crown, back, scapulars and wing coverts pale earthy or grey brown, orbital feathers white; chin, throat and breast much paler than the back; lower abdomen, vent and under tail coverts white; tail basally white, the central feathers broadly dark brown subterminally and tipped with white; the lateral or outer ones on each side narrowly tipped with dark brown, and edged with white; upper tail coverts white; primaries dark brown, the first 3—4 distinctly white shafted and basally whitish on their inner webs; secondaries white, broadly edged on their outer webs and at the tip with brown; primary coverts dark brown, also the under wing coverts; bill black; gape reddish; irides deep brown.

*Length*.—6·5 to 6·75 inches; wing 5·5 to 5·75; tail 2 to 2·06; bill at front 0·37, at gape 0·56.

*Hab*.—Sind, Punjab, N.-W. Provinces and the Deccan, also British Burmah, affecting the same situations as the last. Oates says that it is found abun-

dantly on the larger rivers in Burmah, except in the southern part of Tenasserim. It breeds in Burmah on sandbanks, also on the banks of the Indus, Ganges, Chenab, Brahmaputra, Nerbudda and Mahanuddy. March to April appears to be the breeding season. Eggs, 4 in number, from pale green to stone colour, and marked with dark lines, blotches and spots.

### Sub-Family. CHARADRINÆ.—PLOVERS.

Bill slender, straight, flattened at the base, compressed and grooved; wings long and pointed; tarsi moderate, 1st quill usually longest; hind toe small or wanting.

#### Gen. *Squatarola*.—Cuv.

Nasal groove short; bill bulged at the tip; a very minute clawed hind toe present.

**1256. *Squatarola helvetica* (Linn.),** *Jerd., B. Ind.* iii. p. 635, No. 144; *Dresser, B. Eur.* vii. p. 455; *Salvad., Ucc. Born.* p. 313; *Blyth, B. Burm.* p. 153; *Scully, Str. F.* iv. p. 184; *Armstrong, Str. F.* iv. p. 338; *David et Oust. Ois Chine*, p. 424; *Hume and Dav., Str. F.* vi. p. 455; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon*, p. 929; *Oates, Str. F.* x. p. 237; *id., Burm.* ii. p. 365; *Murray, Vert. Zool., Sind*, p. 224. *Tringa helvetica*, Linn., *Syst. Nat.* 1, p. 250.—THE GREY PLOVER.

*Winter Plumage*.—Forehead, lores, supercilia, chin, abdomen and entire lower surface, including the under tail coverts, white; foreneck, sides of the breast and flanks white, the feathers with sub-triangular or sub-quadrate brownish markings; feathers below the wing from the axilla long and black; head dusky brown, the feathers with narrow tips; rest of the upper plumage dusky brown, the feathers edged and tipped with white or greyish white; tail basally white, with a slightly rufescent tinge terminally, and with 6—7 transverse brown bands or bars. In summer the entire lower surface from the chin, except the vent and under tail coverts, is black, also the lores and sides of the neck; forehead, supercilia and sides of the breast white; back and rump, scapulars and wing coverts black, broadly tipped with brown and white; top of head and nape grey brown, the feathers tipped with white; tail white, banded dark brown; primaries dark brown, their inner webs white.

*Length*.—11 to 12 inches; wing 8; tail 3·25; bill at front 1·25, black; irides dusky; feet dark brown, or dusky brown; weight 7·5 oz.

*Hab.*—Sind, Beloochistan Coast, Kutch, Kattiawar, and nearly all over the Indian Coast; also Burmah. Occurs in flocks along the Sind sea-coast during winter, especially on the mud flats. In the Kurrachee harbour it is numerous on the large island-like flats, especially about Baba Island, associated with the larger and smaller Kentish Plovers.

Gen. **Charadrius**.—*Gmel.*

Bill short and strong; first quill longest; hind toe wanting; other characters as in the sub-family.

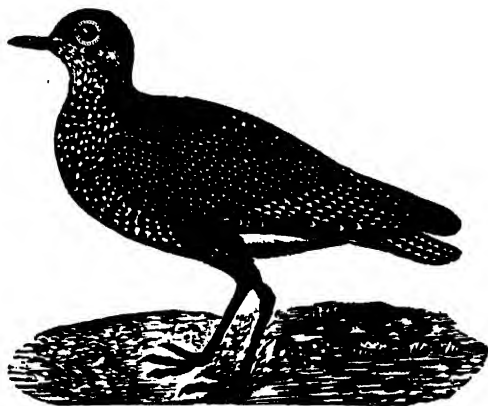
**1257. *Charadrius fulvus*, *Gm., Syst. Nat.* i. p. 687; *Dresser, B. Eur.* vii. p. 443, pl.; *Hume, Str. F.* i. p. 228; ii. p. 287; *id., Nests and Eggs*, p. 570; *id., Str. F.* iii. p. 179; *Blyth, B. Burm.* p. 153; *Salvad., Ucc. Born.* p. 313; *David et Oust. Ois Chine*, p. 424; *Hume and Dav., Str. F.* vi. p. 455; *Hume, Str. F.* vii. p. 482; *Scully, Str. F.* viii. p. 350; *Legge, B. Ceylon*, p. 934; *Oates, B. Br. Burm.* ii. p. 364. *Charadrius longipes* (*Temm.*), *Bonap., Rev. Crit.*, 1850, p. 180; *Ferd., B. Ind.* ii. p. 636, No. 845; *Murray, Vert. Zool., Sind*, p. 224.—THE EASTERN GOLDEN PLOVER.**

*Winter Plumage*.—Head dark brown, the tips of the feathers yellow; forehead white or yellowish white, as are also the lores, supercilia, chin, foreneck and the under tail coverts; back, scapulars, rump, upper tail coverts and wing coverts dusky brown, the edges of the feathers with triangular or sub-triangular yellow spots; tail lighter in colour, the feathers also similarly edged with yellow spots; the neck behind, on the sides, and in front buffy, with a dusky tinge and yellow edgings and spots to the feathers; flanks pale brown, spotted with soiled white. In the summer plumage, the upper plumage is much darker, nearly black, the yellow spots less numerous and smaller, the forehead is white, and the cheeks, throat, neck, and entire under parts are black; primaries black, shafts of the first three white; secondaries tipped with white; also the median wing coverts; tail brownish with transverse bands of black.

*Length*.—10 to 10·5 inches; wing 6·75; tail 2·75; bill at front 0·87; tarsus 1·75; bill dusky at base, black at the tip; irides deep brown.

*Hab.*—Sind, Punjab, Kutch, Kattiawar, Deccan and India generally, also Burmah, in open plains or in the vicinity of rivers and ploughed fields.

**1258. *Charadrius pluvialis*, *Linn., Syst. Nat.* i. p. 251; *Dresser, B. Eur.* vii. p. 460; *Hume, Str. F.* v. p. 247; *id.*, vii. pp. 186; *Murray, Vert. Zool., Sind*, p. 225.—THE EUROPEAN GOLDEN PLOVER.**



*Charadrius pluvialis.*

**Winter Plumage.**—Forehead yellowish white, streaked and spotted with pale brown and grey; head on the sides greyish brown; the crown, back of neck and nape greyish brown with purple reflections and yellow angular spots on the edges and tips of the feathers; chin and throat whitish; breast dusky greyish white, tinged yellow, and spotted with darker grey; axillary plumes white; greater and lesser wing coverts greyish black, the spots paler and the feathers of the greater coverts tipped with white; the tail is deep brown, and barred obliquely with yellowish or yellowish white; upper tail coverts like the back. In summer it undergoes the same change as *longipes*, but the yellow becomes brighter, and the lower parts intense black, except the sides of the neck, breast and body, which are yellowish white, with dark and dusky patches or marblings; primaries and secondaries dusky brown, the shafts of the first five white anteriorly.

**Length.**—10·5 to 11·5 inches; wing 7·5; bill black; irides deep brown.

**Hab.**—Sind, Punjab, and Beloochistan.

This species was first entered in the Sind list by Mr. Hume with a query. Since then all the specimens obtained by myself and others were *longipes*. In my *Handbook* mention was made that *pluvialis* would be found to occur, Mr. Blanford having recorded it from only 200 miles further west at Gwadur. Mr. Brooks, *Stray Feathers*, viii., 489, has since then recorded it from near Sehwan. Mr. Hume, in vol. i., p. 229 of *Stray Feathers*, points out the difference between *fulvus* = *longipes* and *virginicus* from America. He says, "*pluvialis* is at once distinguished by its pure white axillary plumes, which in *fulvus* are brownish or smoke grey. *Fulvus* and *virginicus* differ chiefly in their relative proportions, the former being always smaller." The following are the dimensions of the three given by Harting:—

	Bill.	Wing.	Tarsus.
<i>C. virginicus</i>	1·0	7 to 7·4	1·6
<i>C. fulvus</i>	0·8 to 0·9	6·4 to 6·6	1·5
<i>C. pluvialis</i>	0·9	7·5.	1·4

Gen. **Ægialitis.**—*Boie.*

Bill slender, grooved on upper mandible for two-thirds its length; front of bill raised; upper mandible slightly the longer; 1st quill longest. All the Sand Plovers are more or less gregarious in their habits, and feed either on ploughed lands, meadows, edges of marshes and ponds, sandbanks, mud lagoons and banks of rivers and tanks. They run with some speed, making a dead stop now and again to pick up a worm, mollusc, small crustacea or other insects on which they feed. Nearly all are migratory. Eggs, generally 4 in number, are of a stone yellow or greenish colour, richly blotched.

**1259. Ægialitis Geoffroyi, Wagl., Syst. Av. Charadrius sp.** 19; *Ferd.*, *B. Ind.*, iii. p. 638; *Harting, Ibis*, 1870, p. 378, pl. xi.; *Salvad., Ucc. Born.* p. 318; *David et Oust. Ois. Chine.* p. 426; *Dresser, B. Eur.* vii.

p. 475, pl.; *Hume and Dav.*, *Str. F.* vi. p. 455; *Hume, Str. F.* viii. pp. 112, 200; *Legge, B. Ceylon*, p. 939; *Oates, B. Br. Burm.* ii. p. 366; *Kelham, Ibis*, 1882, p. 9; *Murray, Vert. Zool., Sind*, p. 226. *Cirripidesmus Geoffroyi*, *Hume, Str. F.* i. p. 229; ii. p. 288; *id.*, *Nests and Eggs Ind. B.* p. 571.—The LARGE SAND PLOVER.

In winter plumage, head, neck, nape, back, sides of the breast, scapulars and wing coverts greyish brown; a streak from the base of the mandible under the eye to the ear coverts slightly darker; forehead, a streak above the eye, chin, throat, sides of the neck and rest of the lower parts white; upper tail coverts dull white or pale grey brown; primaries and their coverts dark brown; outer web near the tips and the tips of the secondaries white; longest tertial reaches to between the 3rd and 4th primaries. In summer plumage, the forehead, lores, ear coverts and beneath the eye are black; on each side of the forehead is a white spot; the neck and breast rufous; the throat and chin white; head tinged with rufescent, and the upper parts margined with the same; the shafts of the feathers of the back, scapulars and wing coverts in both stages are dark; primaries dark brown; the outer webs of the inner ones white, also the tips of the secondaries.

*Length*.—8 to 9.25 inches; expanse 17 to 19 inches; wing 5.4 to 5.98; tail 2; bill at front 1; tarsus 1.5; legs greenish; bill black; irides brown.

*Hab.*—Sind, Beloochistan Coast, Persian Gulf, Bengal, Rajputana, Kutch, Kattiawar and India generally during winter; also Burmah. Extremely common along the sea coast and at the mouths of the Indus in large flocks, where they may be seen running along the sandbanks for small crustacea, insects, molluscs, &c.

*Eudromius veredus*, Gould, and *Ægialitis placida*, G. R. Gray, also *Æ. nigrifrons*, Cuv., are species entered in the Avifauna of India of which there is no precise information or corroboration of the fact of their having been found in India. I have therefore not included them in this work.

**1260. *Ægialitis mongolica* (Pall.),** *Harting, Ibis*, 1870, p. 384; *Salvad., Ucc. Born.* p. 316; *Hume, Str. F.* iii. p. 170; *Blyth, B. Burm.* p. 153; *Armstrong, Str. F.* iv. p. 339. *Legge, B. Ceylon*, p. 942; *Kelham, Ibis*, 1882, p. 10. *Charadrius mongolus*, *Pall., Reis. Russ. Reichs.* iii. p. 700. *Charadrius mongolicus*, *Pall., Zoogr. Rosso-Asiat.* ii. p. 136. *Charadrius pyrrhotorax*, *Temm. in Gould, B. Eur.* pl. 299. *Ægialitis pyrrhotorax*, *Ferd., B. Ind.* iii. p. 639, No. 847; *Murray, Hdbk., Zool., &c., Sind*, p. 209; *id.*, *Vert. Zool., Sind*, p. 226. *Cirripidesmus mongolicus*, *Hume, Str. F.* i. p. 230; ii. p. 289; *id.*, *Nests and Eggs Ind. B.* p. 571. *Ægialitis mongolus*, *Hume and Dav.*, *Str. F.* vi. p. 455; *Oates, Str. F.* x. p. 237.—The LESSER SAND PLOVER.

In both winter and summer plumage similar to *Æ. Geoffroyi*, but smaller in all measurements.

*Length*.—7 to 7·25 inches; expanse 15 inches; wing 5 inches; tail 1·87; bill at front 0·75; tarsus 1·25. The tertials reach to between the first and second primaries; bill black; irides brown; legs dusky plumbeous.

*Hab.*—Sind, Beloochistan Coast, Persian Gulf, Afghanistan, and India generally, also Burmah, along the sea shore and banks of rivers, not far inland.

**1261. *Ægialitis cantiana* (Lath.), *Jerd.*, *B. Ind.* iii. p. 647, No. 848; *Armstrong*, *Str. F.* iv. p. 340; *Dresser*, *B. Eur.* vii. p. 483, pl.; *Hume and Dav.*, *Str. F.* vi. p. 456; *Legge*, *B. Ceylon*, p. 947; *Oates*, *Str. F.* x. p. 237; *id.*, *B. Br. Burm.* ii. p. 368; *Murray*, *Vert. Zool.*, *Sind*, p. 226. *Charadrius cantianus*, *Lath.*, *Ind. Orn. Suppl.* pl. lxvi. *Ægialophilus cantianus*, *Hume*, *Str. F.* i. p. 230; *id.*, *Nests and Eggs*, p. 571.—The KENTISH PLOVER.**

*Male in Winter Plumage*.—Forehead, streak over the eye, extending to the ear coverts, chin, throat, ring round the neck, breast, abdomen and under tail coverts white; outer tail feathers on each side also white, with a subterminal dusky spot on the inner web; crown, nape, neck behind, a streak from the base of the bill under the eye, cheeks, back, scapulars, sides of breast and tertials earthy or greyish brown, the feathers with darker shafts; in some (February specimens) the feathers are tinged with rufous, and those on the fore part of the crown, very slightly (absent in most) white tipped; tail earthy or grey brown, darker subterminally, and all, except the central feathers, tipped pale fulvous or white; primaries dusky brown, 4th, 5th and 6th with a patch of white on their outer webs; secondaries edged and tipped terminally with white; edge of the wing and under wing coverts white.

In nuptial plumage, the white of the forehead extends broadly over the eye and beyond it, behind which on the forecrown is a patch of black followed by a reddish or reddish brown patch, tinged with grey. The streak from the base of the bill through the eye to the ear coverts is black, and there is a large patch of black on each side of the breast; back, scapulars and tertials greyish brown; the 1st primary is the longest; primaries dusky brown; wing coverts grey brown, the greater series tipped with white; secondaries white at their bases and tips; under wing coverts, chin, throat and under parts white; the tail is like the back, the middle feathers longest and dusky brown near the tip, the outer ones on each side white.

*Length*.—6·75 inches; wing 4·3; tail 2; bill at front ·75; bill black; irides brown; feet dusky greenish.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, South India and Ceylon. Abundant along the coast about the Delta of the Irrawaddy, and also at various points in Tenasserim. It is also recorded from Arracan. In Ceylon, Major Legge found it breeding in June and July on the banks of salt lagoons, in the south-east portion of the Island.

**1262. *Ægialitis dubia* (Scop.),** *Salvad., Ucc. Born.* p. 316; *Blyth, B. Burm.* p. 153; *David et Oust. Ois. Chine*, p. 429; *Anderson, Yunnan Exped.* p. 676; *Hume, Str. F.* vii. p. 227 (note); *Oates, Str. F.* x. p. 237; *id., B. Br. Burm.* ii. p. 370. *Charadrius dubius*, *Scop., Del. Flor. et Faun. Insub.* ii. p. 93. *Charadrius curonicus*, *Gm., Syst. Nat.* i. p. 692. *Charadrius phillipinus*, *Lath., Ind. Orn.* ii. p. 745. *Charadrius fluviatilis*, *Bechst., Gemeinn Naturg. Deutschl.* iv. p. 422. *Ægialitis phillipensis* (Scop.), *apud. Jerd., B. Ind.* ii. p. 640, No. 849. *Ægialitis fluviatilis*, *Hume, Str. F.* i. p. 230; ii. p. 289; *id., Nests and Eggs Ind. B.* p. 572. *Ægialitis curonica*, *Wald, in Blyth's B. Burm.* p. 154; *Dresser, B. Eur.* vii. p. 491; *Legge, B. Ceylon*, p. 952.—THE LESSER RINGED PLOVER.

A narrow streak above the base of the bill continued behind, under, and through the eye to the ear coverts black; crown of head and ring round the neck black; a patch of white on the forehead above the black frontal streak; chin, throat, and under parts from below the black collar, including the under coverts, white; nape and upper plumage cinereous or greyish brown; primaries dusky brown; tail with the middle feathers paler than the lateral ones, except the outermost on each side, which are white, with a dusky spot on the inner web; under wing coverts white.

*Length.*—7 to 7·25 inches; wing 4·5; tail 2·5; bill at front 0·56; bill black; irides brown; legs yellowish.

*Hab.*—Sind, Beloochistan, Persia, Aghanistan, E. Turkestan, Nepaul, Cashmere, and throughout India, also throughout Burmah. Extremely common in rice fields and along the banks of the Indus. Breeds in the Deccan and Central Provinces during April and May. Eggs, three in number, broad ovals, elongated and pointed towards one end; of a fawn, drab or buffy stone colour, speckled and spotted with hieroglyphic-like lines and figures of brownish purple, blackish brown or black. Size 1·1 to 1·23 × 0·8 to 0·87.

**1263. *Ægialitis Jerdoni*, Legge, P. Z. S.** 1880, p. 39; *id., Birds Ceylon*, p. 956. *Ægialitis minutus* (Pall.), *apud. Jerd., B. Ind.* ii. p. 641; *Legge, Str. F.* iii., p. 372; *Hume and Davison, Str. F.* vi. p. 456; *Hume, Str. F.* viii. pp. 112, 199; *Oates, Str. F.* x. p. 238; *id., B. Br. Burmah*, ii. p. 371. *Ægialitis phillipinus* (Lath.), *apud. Hume, Str. F.* p. 179.—THE LITTLE INDIAN RINGED PLOVER.

Similar to *Æ. dubia* from which it differs in being smaller, in having the edges of the eyelids swollen and protuberant, and in having the basal half of the lower mandible yellow. Another point of difference, according to Mr. Hume, is that in summer the legs of *Æ. Jerdoni* do not become yellow as in *Æ. dubia*.

*Length.*—6 inches; tail 2·2; wing 4·1; tarsus 9; bill from gape 5·5. The female is rather larger, approaching in size the male of *Æ. dubia*.

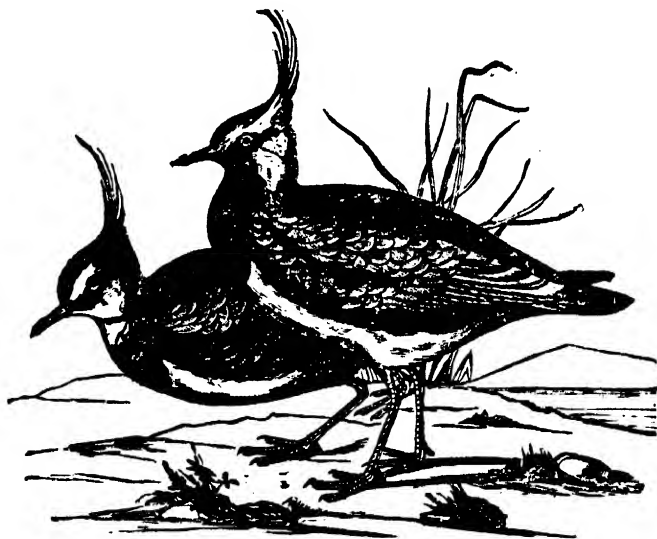
The Little Indian Ringed Plover is generally distributed over Burmah, but is nowhere very abundant. Oates procured it near Thayetmyo and also in Southern Pegu, along the banks of the canal. Capt. Wardlaw-Ramsay got it at Tounghoo, and Mr. Davison observed it in Tenasserim about the latitude of Moulmein. It occurs in suitable localities over the whole of India and Ceylon, the Indo-Burmese Countries, and Cochin-China, where Dr. Tiraud procured many specimens near Saigon. Oates says it is probably a constant resident in Burmah, notwithstanding the fact that all his specimens were procured in the winter season. In the rains, when sandbanks are submerged, its area of distribution must become very restricted, and it is likely at this time of the year to escape observation. Major Legge found it breeding in Ceylon.

**Sub-Family, VANELLINÆ.—LAPWINGS.**

Bill rather compressed, straight, convex at the tip; nostril in a long lateral groove; wings pointed and long; tail broad; hind toe short. Generally very active and lively birds. Nearly all winter visitants in India. Feed on worms, slugs, molluscs, &c., either along the sea shore, or river banks, or the edges of tanks and marshes; also in ploughed fields.

**Gen. *Vanellus*.—Linn.**

Bill straight; 2nd and 3rd quills longest; shoulder of wing with a small (not prominent) tubercle.



**1264. *Vanellus cristatus*, Meyer, P. E. 242; Gould., B. Eur. pl. 291; Jerd., B. Ind. iii. p. 643; Hume, Nests and Eggs, Ind. B. p. 573;**



*Str. F.* i. 231; *Murray, Hdbk., Zool., &c., Sind*, p. 210; *id.*, *Vert. Zool. Sind*, p. 228.—The CRESTED LAPWING or PEEWIT.

Entire head, crest, chin, a line below the eye, breast and foreneck black, glossed with greenish; lores, supercilia and behind the eye, also sides and back of the neck, and from the termination of the black breast to the belly, white; the sides of the head in some immature specimens speckled with brown or dusky; upper tail coverts pale reddish chestnut; under tail coverts slightly paler; back and scapulars olive green, glossed with coppery and purple; golden green on the lower back and rump; primaries black, the first three broadly terminated with greyish white; 1st quill shortest, third longer than the second or nearly equal; greater and lesser wing coverts like the back; tail white basally, and broadly black terminally, with narrow white tips to all the feathers; the outermost feather entirely white, except a dusky spot subterminally on the inner web.

*Length*.—12 inches; wing 9; tail 4; tarsus 2; bill black; irides hazel brown; legs orange brown. In winter plumage the chin and throat are white, and there is much brown specklings on the sides of the face and nape. The female is like the male in winter plumage, and throughout of a duller tint.

*Hab*.—Sind, Punjab, N.-W. Provinces, Beloochistan, Persia, Afghanistan, and E. Turkistan, also Nepaul and Cashmere. It is said to breed in Yarkand. In Sind it is a winter visitant, and is found in open places, marshy ground, and the banks of canals. In England, the Vanellinæ are considered by some good for food, and their eggs a delicacy. In India, however, it is not the case, though some persons think them not amiss at any time. After October they are very fat and tender, and for the table are said to be undistinguishable from the Plovers.

### Gen. *Chettusia*.—*Bp.*

Head not crested; plumage ashy; otherwise as in *Vanellus*.

**1265. *Chettusia gregaria*, Pallas, Zoogr. ii. t. 56; Gould, B. Eur. pl. 292; Jerd., Birds Ind. iii. p. 644, No. 852; Str. F. i. 231; iv. 13; Murray, Hdbk., Zool., &c., Sind, p. 210; id., Vert. Zool. Sind, p. 229.**—The BLACK-SIDED LAPWING.

Forehead, supercilium extending to the occiput, lower belly, vent and under tail coverts white; top of head, a narrow band from the base of the bill through the eye, and the middle of the abdomen black; back of neck, back, and scapulars olivaceous brown, tinged greyish; sides of head and neck pale rufous, passing to greyish or brownish on the breast; primaries black; secondaries white; tail and upper tail coverts white, with a broad subterminal black band, tipped with white; outermost feathers white.

*Length*.—12.5 to 13 inches; wing 8.5; tail 3.5; tarsus 2.3; bill at front 1.2. In the young the black abdominal patch is wanting. The females are much duller than the males in colour.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, the Concan, Deccan, Kutch, Kattiawar, Rajputana and Central India. Frequents grassy plains in parties of from five to twenty. Its flesh is said to be very delicate.

**1266. *Chettusia leucura* (Licht.), *Ferd.*, *B. Ind.* iii. p. 646, No. 853.** *Chettusia flavipes*, *Savigny, desc. d'l'Egypt. Zool.* p. 6, fig. 2. *Chettusia Villotæi*, *Audoin., Hume, Str. F.* i. p. 232; *id.*, iv. p. 13; *Murray, Vert. Zool., Sind.* p. 229.—The WHITE-TAILED LAPWING.

Head and neck brown, very pale, almost fulvous on the forehead; a small whitish patch behind the eye; chin and throat white; back and scapulars brown, glossed with reddish purple; upper tail coverts and tail white; breast pale greyish brown, bluish ashy on the lower part; lower abdomen and under tail coverts white, the former tinged of a roseate hue; primaries black; secondaries white, broadly tipped on their outer webs with black; median and greater wing coverts basally ashy, broadly edged subterminally on the outer web with black and tipped with white.

*Length.*—11 to 11·5 inches; wing 7; tail 2·75; bill at front 1; bill black; irides brown red; legs bright yellow.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Beloochistan, Afghanistan, Persia, Kutch, Kattiawar, and North Guzerat, also in Central India, and probably the Deccan; common in the vicinity of jheels, tanks, &c.

**1267. *Chettusia cinerea* (Blyth), *Hume, Str. F.* iii. p. 180; *Blyth, B. Burm.* p. 152; *David et Oust Ois. Chine*, p. 422; *Hume and Dav., Str. F.* vi. p. 456; *Cripps, Str. F.* vii. p. 300; *Hume, Str. F.* viii. p. 112; *Oates, Str. F.* x. p. 238; *id.*, *B. Br. Burm.* ii. p. 372.** *Pluvianus cinereus*, *Blyth, J. A. S. B.* i. p. 587. *Lobivanellus inornatus*, *Temm. et Schleg, Faun. Jap. Aves*, p. 106, pl. 63. *Chettusia inornata*, *Ferd.*, *B. Ind.* iii. p. 646.—The GREY-HEADED LAPWING.

Head and neck all round grey; back, rump, lesser and median wing coverts and scapulars, also the tertiaries, greyish brown, with a faint vinous tinge; upper tail coverts white; tail white, with a broad black band near the tip, diminishing in width towards the lateral feathers and absent on the outermost; primary coverts and primaries black; greater wing coverts and secondaries white; breast greyish brown, bounded below by a broad black band; rest of under surface white; edges of the eyelids, lappets and basal two-thirds of the bill deep yellow; terminal third of bill black; irides red; legs dull yellow.

*Length.*—14·5 inches; tail 4·5; wing 9·8; tarsus 3; bill from gape 1·6.

*Hab.*—Northern India, Punjab, N.-W. Provinces, Oudh, Kumaon; also British Burmah in Southern Pegu, Bassein, Tongoo, the low-lying parts of Northern Tenasserim and Bengal, affecting swamps and marshy ground. It is a winter visitant to these parts, leaving India during April.

Gen. **Hoplopterus**—*Bonap.*

Shoulder of wing with a stout spur. No hind toe in the Indian species.

**1268. *Hoplopterus ventralis* (Wagl.).** *Ferd.*, *B. Ind.* iii. p. 650; *Hume, Nests and Eggs Ind. B.* p. 578; *id.*, *Str. F.* iii. p. 181; *Blyth, B. Burm.* p. 153; *David et Oust. Ois. Chine.* p. 423; *Anderson, Yunnan Exped.*, p. 675; *Hume and Dav.*, vi. p. 457; *Cripps, Str. F.* vii. p. 300; *Hume, Str. F.* viii. p. 112; *Scully, Str. F.* viii. p. 352; *Oates, Str. F.* x. p. 238; *id.*, *B. Br. Burm.* ii. p. 373; *Murray, Hdbk., Zool., &c., Sind.* p. 211; *id.*, *Vert. Zool., Sind.*, p. 231.—The SPUR-WINGED LAPWING.

Head, crest, lores, sides of the face as far as the middle of the eye, chin, throat, and foreneck black; a white streak from behind the eye on each side meeting on the nape, bordering the black feathers of the hind crown and nape; cheeks white, the white extending on to the upper breast all round, enclosing the black of the foreneck and forming a pectoral patch; breast below black; scapulars and tertials pale brown; shoulder of the wing black; primaries black; secondaries basally white, tipped and edged with black, the black decreasing in extent on the hinder feathers; greater wing coverts white, forming a conspicuous wing band; upper and under tail coverts and entire under surface white, except a patch on the middle of the abdomen; tail white, broadly terminated with black.

*Length.*—12 inches; wing 7·75 to 8; tail 4 to 4·2; bill at front 1·1; bill black; irides deep brown; legs blackish, tinged with reddish.

*Hab.*—Northern India generally, Punjab, N.-W. Provinces, Oudh, British Burmah, Bengal, and Central India, along the sandy banks of rivers; also in Pegu and Nepaul. It is rare in Sind. A single specimen was got by Mr. W. Wallinger on the banks of the Indus near Buggatora, who also mentions having seen it on the Aral near Sehwan. Breeds on the banks and in the beds of most of the larger rivers of India and Pegu, penetrating the hills to 2,000 feet. March and April are the months in which it lays. Eggs, four in number, from a stone to olivaceous drab colour, profusely spotted with dark and purplish brown. In size they vary from 1·42 to 1·78 in length, and in breadth from 1·12 to 1·3 inches.

Gen. **Lobivanellus**.—*Strickl.*

. A lappet of skin in front of the eye extending to the base of the bill; hind toe very small.

**1269. *Lobivanellus indicus*, Bodd.,** *P. E.* 807; *Gould, C. B. E.* pl. 78; *Str. F.* iii. 648; vii. 67; *Hume, Nests and Eggs Ind. B.* p. 574. *Lobivanellus goensis*, *Ferd.*, iii. p. 648, No. 855; *Murray, Hdbk., Zool., &c. Sind.* p. 211; *id.*, *Vert. Zool. Sind.*, p. —The RED-WATTLED LAPWING OR "DID HE DO IT."

Head, nape, back of the neck, chin, throat, neck in front and breast black ; a broad streak from behind the eye along the sides of the neck, abdomen and upper and lower tail coverts white ; tail white, with a subterminal dark band and broadly tipped white ; back, scapulars and tertials pale brown ; primaries and their coverts black ; greater wing coverts like the back basally, and broadly edged and tipped with white, forming a conspicuous wing band.

*Length*.—12·5 to 13 inches ; wing 9·5 ; tail 4·75 ; bill at front 1·27 ; wattles red.

*Hab*.—Throughout India, Beloochistan, Persia, and Afghanistan. In India it is everywhere common, during both winter and summer, and breeds from April to July. It is an extremely noisy bird, and especially so during the breeding season. Its vulgar name, "Did he do it," is very appropriately given, being its continuous cry, with "Pity to do it," the place resounding with its almost endless echoes, till the intruder is out of reach of its nest. The nest is usually a small depression in the earth, with or without lining of any kind, and made in the vicinity of a marsh. The eggs are generally of a deep green colour, irregularly marked with blotches and streaks of a brownish black.

**1270. *Lobivanellus atronuchalis* (Blyth),** *Ferd.*, *B. Ind.* ii. p. 648 ; *Hume, Nests and Eggs Ind. B.*, p. 376 ; *id.*, *Str. F.* iii. p. 181 ; *Blyth, B. Burm.* p. 152 ; *Hume and Davison, Str. F.* vii. p. 457 ; *Hume, Str. F.* viii. p. 112 ; *Oates, Str. F.* x. p. 238 ; *id.*, *B. Br. Burm.* ii. p. 374 *Sarcogramma atrogularis, Blyth, J. A. S. B.* xxxi. p. 345 (note).—THE BURMESE LAPWING.

Entire head, neck and breast black ; a band over the ear coverts white, also a collar on the hind neck, upper tail coverts, the tail, except a broad black band and under plumage from the breast ; back and rest of upper parts, including the wing coverts, grey, glossed with purplish on the coverts and green elsewhere ; greater coverts grey, broadly tipped with white ; primaries and secondaries black, the bases white, increasing in extent to the last secondary, which is nearly wholly white. Bill black on the terminal half ; eyelid and wattles red ; legs and feet pale yellow.

*Length*.—13 inches ; tail 4·5 ; wing 8·15 ; tarsus 3 ; bill from gape 1·3.

*Hab*.—British Burmah and Karenne, extending northwards as far as Bhamo ; eastwards to Cochin-China and southwards down to Singapore. Breeds in April and May, in paddy fields and grass lands. Eggs, usually four in number, buff, thickly spotted and blotched with blackish brown.

#### Gen. *Sarciophorus*.—*Strickl.*

- \* Wattles yellow ; bill rather slender ; hind toe absent.

**1271. *Sarciophorus bilobus* (Gmel.),** *Ferd.*, *B. Ind.* ii. p. 649 ; *Blanf., Ibis*, 1870, p. 470 ; *Blyth, B. Burm.* p. 153. *Charadrius malabaricus*,

*Bodd. Tabl. Pl. Enl.* p. 53. *Charadrius bilobus*, *Gmel., Syst. Nat.* i. p. 691. *Lobipluvia malabarica*, *Hume, Nests and Eggs Ind. B.* p. 477; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon*, p. 966; *Parker, Str. F.* ix. p. 482; *Hume, Str. F.* x. p. 238 (note); *Oates, B. Br. Burm.* ii. p. 375; *Murray, Vert. Zool., Sind*, p. 230.—The YELLOW-WATTLED LAPWING.

**Breeding Plumage.**—Head and nape black; ear coverts white, extending behind the nape; chin and throat black; neck in front and behind, also the back, scapulars and tertiaries pale brown; breast slightly darker, edged with dark brown; rest of the under surface including the upper and lower tail coverts white; tail white, with a black band subterminally and white tip, except three of the lateral tail feathers, which are white, with a subterminal dusky spot on the outer web of the third feather; primaries and their coverts black; the inner webs of the primaries white, decreasing in extent to the inner ones; secondaries basally white, and terminated with black; greater wing coverts like the back, but broadly tipped and edged with white, forming a conspicuous white wing band.

**Length.**—11 to 11·75 inches; wing 8·25; tail 3·25; bill at front 1; irides brown; bill yellow at the base, the rest black; wattles yellow.

**Hab.**—Nearly throughout India, Burmah and Ceylon. In India it is a resident, frequenting dry stony or grassy plains usually in company with *Cursorius isabellinus* or *gallicus*. Breeds in August on the edges of cultivated land. The eggs are not unlike those of *L. indicus*, but are smaller, and have a stone colour ground, with deep brown and nearly black blotches. In the winter plumage, the chin and throat and the black edges to the feathers of the breast below are wanting, and the upper plumage is duller or paler brown.

### Sub-Family, ÆSACINÆ.—STONE PLOVERS.

Bill strong and thick; no hind toe; nostrils linear, in a groove near the base of the bill; gonys strongly angulated.

#### Gen. Æsacus.

Bill long, sub-curved, the lower edge of the under mandible wide in the middle, then curving to a point.

**1272. Æsacus recurvirostris** (*Cuv.*), *G R. Gray, M. G. B.* pl. 142; *Ferd., B. Ind.* iii. p. 652, No. 858; *Hume, Nests and Eggs Ind. B.* p. 579; *id., Str. F.* ii. p. 182; *Blyth, B. Burm.* p. 152; *Str. F.* vol. v. p. 121; *Hume, Str. F.* vi. p. 458; *Oates, Str. F.* vii. p. 50; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 974; *Oates, B. Br. Burm.* ii. p. 357; *Murray, Ildb., Zool., &c., Sind*, p. 211; *id., Vert. Zool. Sind*, p. 231. (*Karwanak : Chota Taloor, Sind*).—The LARGE STONE PLOVER.

Forehead and a broad line down the sides of the face white; a broad dark streak on each side from the base of the lower mandible; feathers round and behind the eye white, broadly bordered with dark brown; chin, throat, abdomen, and under tail coverts white; top of head, neck behind, back, scapulars

and tertials pale brown, the feathers distinctly dark-shafted; neck in front white, in some specimens obtained in April greyish brown; the breast ashy, contrasting with the pure white of the rest of the under surface; primaries black, the first three quills with a patch of white on their terminal thirds, and the last three basally and at tip white, with a subterminal black band; lesser wing coverts dark brown; median and greater coverts pale greyish brown, the latter white tipped; secondaries dark brown, their inner webs white; tail pale brown at base, with a subterminal white band and a broad black tip, except the outermost feather, which is white at the base and more broadly tipped with black; bill black, greenish at the base; irides yellow; legs yellow.

*Length*.—20 inches; wing 10·5; tail 4·37; tarsus 3·5; bill at front 3, at gape 3·75.

*Hab.*—Nearly throughout India, along the sea coast and banks of large rivers. From the stomach of a specimen got in the Kurrachee harbour ten calling crabs (*Gelasimus annulipes*) were extracted. *Æ. magnirostris*, an Australian species, is said to have occurred in the Andaman Islands and probably also occurs along the Burmese sea coast. There is however no precise information. It is distinguished from this species by being a little larger, and by the colour of the *sixth primary being all white* with only a brown band on the outer web.

Gen. **Ædicnemus**.—*Cuv.*

Bill longer than the head, straight and slightly depressed at the base; culmen raised near the point; mandible angulated beneath; nostrils in the middle of the bill in a longitudinal slit; toes three; tail graduated.



*Ædicnemus crepitans.*

**1273. *Ædicnemus crepitans*, Temm., *Man. d' Orn.* p. 348; *Jerd.*, *B. Ind.* iii. p. 654; *Hume*, *Str. F.* i. p. 232; *id.*, *Str. F.* iii. p. 182; *Blyth*, *B. Burm.* p. 152; *Oates*, *Str. F.* xi. p. 238; *Murray*, *Vert. Zool. Sind*, p. 232. *Charadrius ædicnemus*, *Linn. Syst. Nat.* i. p. 255. *Charadrius scolopax*, *S. G. Gmel.*, *Reisse Russ.* iii. p. 87, pl. 16. *Ædicnemus indicus*, *Salvad.*, *Ass. Soc. Ital. Sc. Nat.* viii. p. 380; *Hume*, *Nests and Eggs Ind.* B. p. 581. *Ædicnemus scolopax*, *Dresser*, *B. Eur.* vii. p. 401, pl.; *Legge*, *B. Ceylon*, p. 969; *Oates*, *B. Br. Burm.* ii. p. 356.—THE STONE PLOVER OR BASTARD FLORIKEN.**

Lores white, with a few brown spots; chin and throat white; a distinct narrow moustachial stripe from the base of the lower mandible; head, neck, back, scapulars and upper tail coverts reddish ashy, each feather with a mesial dusky streak; breast the same as the back; belly white; under tail coverts reddish ashy; tail white basally, all the feathers except the middle ones tipped with black; thigh coverts white; primaries black, the first three quills with a patch of white at their terminal third, and the last three white basally and at tip with a subterminal dark band; edges of the greater wing coverts white, forming a wing band.

*Length*.—16 inches; wing 9; tail 4·5; bill at front 1·5; irides and orbits yellow; also the legs and feet.

*Hab.*—Throughout India, including Burmah, also Ceylon and Persia. Affects stony places, waste land, grassy plains, dry river beds and the sides of sloping banks; runs very swiftly, especially when first surprised, stops short now and again after the manner of *Cursorius isabellinus*, and squats close to the ground, depending for safety on the colour of its plumage, which is like that of the ground. Its flight is strong and steady, but it seldom uses its wings, except when hard pressed; usually turns out in the evening in quest of food, which consists chiefly of worms. The young are said to run from the nest within three hours of their birth. It is not uncommon to meet with parties of this bird in looking for Oobara (*H. Macqueenii*) among Grewia bushes, and perhaps from this circumstance and its lineated plumage it is called the "*chota* or small Taloor." It is, as Jerdon says, a favourite quarry for the Sparrow Hawk and the Besra. Its flesh is as much esteemed almost as that of the Houbara, being highly flavoured. Breeds in Sind from February to April. It makes no nest, the eggs being laid in a small depression in the ground, usually sheltered by a stone.

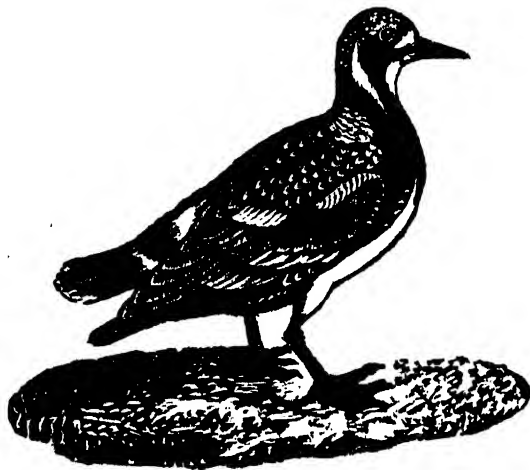
**Family, HÆMATOPODIDÆ, Bp.**—SEA PLOVERS.

Feet with three toes, and a very small hind toe; bill long, strong, front half compressed, tip blunt; wing long and pointed.

**Sub-Family, STREPSILINÆ.—Bp.**

Characters those of the Family; bill slightly curved upwards.

**1274. *Strepsilas interpres* (Linn.),** *Ferd.*, *B. Ind.* ii. p. 656; *Salvad.*, *Ucc. Born.* p. 320; *Blyth*, *B. Burm.*, p. 154; *Dresser*, *B. Eur.* vii. p. 555, pl.; *Hume*, *Str. F.* iv. p. 464; *Murray*, *Vert. Zool.*, *Sind.* p. 233; *Legge*, *B. Ceylon*, p. 987; *Oates*, *Str. F.* x. p. 238; *id.*, *B. Br. Burm.* ii. p. 376. *Cinclus interpres*, *Hume*, *Str. F.* i. p. 233; ii. p. 292. *Tringa interpres*, *Linn.*, *Syst. Nat.* i. p. 248.—The TURNSTONE.



*Strepsilas interpres.*

In winter the crown and hinder part of the head are dusky, edged very narrowly with greyish brown; the lores pale brown, or in some specimens greyish brown; the chin and throat are white, also a patch on each side of the neck, bordered in front along the sides of the white throat patch with dusky or dark brown; upper back, scapulars, rump, breast and sides of the breast dusky or dark brown, according to season, edged with rusty or brownish red; some of the scapulars partly edged with white; tertials long, reaching beyond the fifth quill, edged and tipped with rufous or red brown; lesser wing coverts, like the upper back, white at the shoulder; the secondary or greater coverts tipped with white, forming a conspicuous wing bar; primaries and secondaries black, the inner webs of the former and tips of the latter white; back, lower surface of the body from below the breast, also the thigh and upper and lower tail coverts white; a patch of black on the rump; tail feathers white, with a subterminal black band, except the central ones, which are entirely black. In the summer or breeding plumage, the forehead, a band over the eye, lores and a patch behind the eye are white; the crown of the head is also white, broadly streaked with black. There is also a black streak behind the white frontal patch, continued



to the front and below the eye on each side joining the black streak from the lower mandible, and getting lost on the neck, whence springs a black demicollar not extending on the upper surface of the neck, which, like the head, is white with dark streaks; back of neck white, extending down the sides between the black demicollar and sides of the breast; chin white; throat and breast deep black; upper back and scapulars black, the feathers broadly edged and tipped with red rust colour; some wholly so, especially the scapulars; lesser and median wing coverts black, broadly edged and tipped with bright rust colour; the tips of the greater or secondary coverts white, forming a wing band; quills black, the inner webs, and part of the outer webs of the last two or three basally white; secondaries like the quills, but broadly white on their inner webs, and also narrowly tipped white; tertials dark brown, edged and tipped with rusty; back, entire lower surface below the breast, and upper tail coverts white; rump with a patch of black; tail as in the winter plumage; irides deep brown; legs orange yellow.

*Length*.—8 to 8.5 inches; wing 6; tail 2.5.

*Hab*.—India generally, and Ceylon along the sea shores, and sometimes inland along the banks of large rivers. Its geographical range is very wide, being found in Europe, America, and Africa, and throughout Asia, in suitable localities. In Sind it is extremely common in the Kurrachee harbour and at the mouths of the Indus. It occurs also on the Sambhur lake, and on the banks of the river at Poona, in the Deccan; also on the Beloochistan Coast and in the Persian Gulf.

#### Gen. **Dromas**.—*Payk.*

Bill long, lower mandible strongly angulated; tarsus long; wings reach beyond the tip of the tail; feet webbed; hind toe long and slender.

**1275. *Dromas ardeola*, Paykl., *Handlist Ac. Vet. Stockhlm.* t. 8; *Fard. and Selby, Ill. Orn.* pl. 157; *Ferd., B. Ind.* iii. p. 658; *Str. F.* ii. p. 293; vii. p. 186; viii. p. 383; *Murray, Hdbk., Zool., &c., Sind*, p. 212; *id., Vert. Zool. Sind*, p. 234; *Legge, B. Ceylon*, p. 986.—The CRAB PLOVER.**

Whole head, neck all round, chin, throat, breast, entire lower parts, back, upper and lower tail coverts and upper tertials white; generally a dark loreal spot; mantle and interscapulars black; primaries and secondaries black, their inner webs white; greater wing coverts black; tail reddish ashy, as also are some of the tertials near their tips; bill black, 2.5 inches in length; irides brown.

*Length*.—15 to 15.5 inches; wing 8.75 to 9; tail 2.5.

*Hab*.—Indian coasts, Ceylon, Africa, Red Sea, Seychelles, Madagascar, Beloochistan Coast and the Persian Gulf. Common in Sind in the Kurrachee

harbour. Breeds in the Persian Gulf near Bushire. Mr. Hume has given an account of its nidification in vols. vii. and viii. of *Stray Feathers*. There is no nest, and the eggs are laid in a burrow about 4 feet deep in the loose sand; but whether this is dug by the bird, or is that of a crab, is still a question, the holes being, it is said, too narrow to admit the bird.

### Gen. *Hæmatopus*—Linn.

Bill straight, long, very slightly bent upwards; nostrils linear in a long cleft; toes three, all placed forward; no hind toe.

**1276.** *Hæmatopus ostralegus* Linn., *Syst. Nat.* i. p. 257; *Ferd.*, *B. Ind.* ii. p. 659; *Hume, Str. F.* i. p. 234; *Blyth, B. Burm.* p. 154; *Dresser, B. Eur.* vii. p. 567; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 987; *Murray, Vert. Zool. Sind*, p. 235. *Hæmatopus osculans*, *Swinh., P. Z. S.* 1871, p. 405; *Dav. et Oust. Ois Chine*, p. 432.—The OYSTER CATCHER.

Entire head, neck, breast, upper back, scapulars and tail black; lower orbital feathers white; lower back, and entire lower parts white, also a ring round the throat; primaries black, the inner webs and part of the outer webs of all, except the first two quills, white; the white on the outer webs of the innermost primaries spreading to the edges; secondaries basally and narrowly at tip white, with a subterminal black band; greater coverts and some of the secondaries and lower tertiaries white, forming a large wing patch; lesser and primary coverts black; bill orange yellow, or bright scarlet, 3·5 to 3·75 inches long; irides lake red; orbits orange.

*Length.*—16 to 17 inches; wing 10·5; tail 4; tarsus 2·25.

*Hab.*—Europe, Siberia, India, Ceylon, Afghanistan, Beloochistan, Persian Gulf, Sind, the Eastern and Western Coasts of India; in fact has a very wide distribution. Inhabitant of the sea shores, being seldom found inland. It lives chiefly on molluscs, worms, &c., and is said to easily disengage limpets from the rocks, and to pluck out the oysters from their half-opened shells, with its admirably adapted wedge-shaped bill. Oyster-Catchers feed in the mornings and evenings, and also at night, and are at all times watchful and shy in their habits.

### Family, GRUIDÆ.

Bill long; mandibles equal; nostrils in a deep groove; wings long; tertials long; tail short, even; tarsi long, scutellated.

**1277.** *Grus antigone*, Linn., *Syst. Nat.* p. 235; *Ferd.*, *B. Ind.* ii. p. 662; *Hume, Nests and Eggs Ind. B.* p. 584; *Blyth, B. Burm.* p. 157; *Oates, Str. F.* v. p. 164; *Hume and Dav., Str. F.* vi. p. 458; *Murray, Vert.*

*Zool., Sind*, p. 235; *Hume and Marsh., Game Birds* ii. p. 1, pl.; *Oates, B. Br. Burm.* ii. p. 354.—THE SARUS CRANE.

Head and neck naked, covered behind with numerous crimson papillæ, and clad with a few black hairs, which accumulate below on the neck, and form a sort of mane down the nape of the neck; ear coverts white; below this the neck is whitish grey, which gradually passes into a blue or French grey, which is the colour of the whole plumage, the quills and inner webs of the tail feathers being dusky slaty; seasonally it assumes a pure white collar immediately below the crimson papillose skin of the neck, and some of the tertiaries and scapulars become white, lengthened, hang over gracefully and exceed the tail in length; bill pale sea green, brownish at the tip; irides orange red; legs and feet pale rosy red.

*Length.*—52 inches; wing 26; tail 9·25; bill at front 6·25, tarsi 12·5 to 13. (*Ferdon*.)

I have not a satisfactory specimen.

*Hab.*—Throughout the greater part of India. It is rare in Sind. In the Punjab it is found in the Delhi and other district, also in the N.-W. Provinces, Rajputana, Kutch, Concan and Deccan. It has also been found occasionally in Khandesh. Throughout the Central Provinces, also the Madras Presidency, north of the Godavery, Chota Nagpur and Lower Bengal it is common in suitable localities. Breeds over the whole of the N.-W. Provinces, Upper Bengal, British Burmah, Assam, Oudh and Guzerat; also Central India and Khandeish, during August and September, laying 2 eggs, of a pale green colour, speckled with yellowish brown purple or purplish pink. Many are quite unspotted.

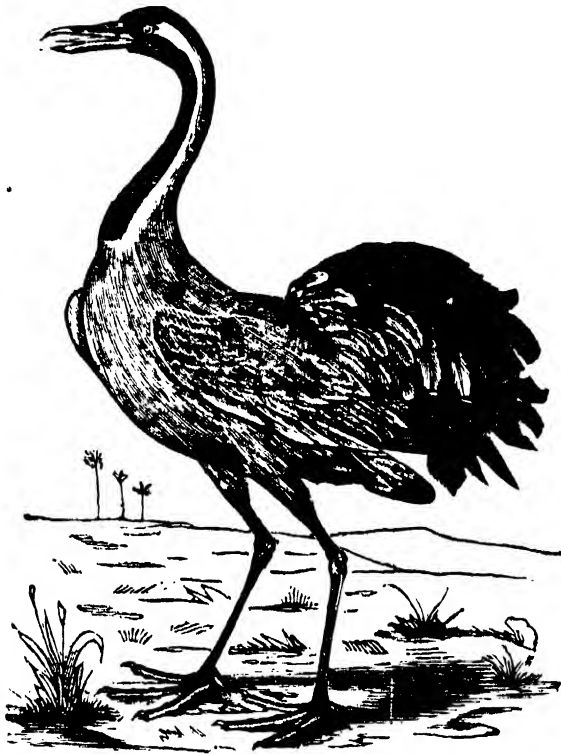
**1278. *Grus leucogeranus*, Pall, *It.* t. i; *P.C.* 467; *Ferd.*, *B. Ind.* iii. p. 663; *Str. F.* i. p. 235; vii. p. 437; *Murray, Hdbk., Zool., &c., Sind*, p. 213; *id.*, *Vert. Zool. Sind*, p. 236.**—THE LARGE WHITE, SNOW-WREATH, or SIBERIAN CRANE.

Plumage wholly white; primaries black; tertiaries white, much lengthened and reaching to or beyond the end of the tail; nude parts of the face and legs red; hind head subcrested. In the young Mr. Hume (*Game Birds of India*) says: "There is no bare space about the face, the whole head and upper half of the neck are of a somewhat rusty buff, which is deepest on the head and cheeks, and pale on the chin and throat."

*Length, Male.*—53 to 56 inches; wing 23 to 26; expanse 90 to 99·5; tarsi 11 to 12; bill from gape 7·75 to 8. *Females* are smaller; irides pale yellow; bill brown; nasal membrane red.

*Hab.*—A winter migrant to India; occurs in the N.-W. Provinces, Punjab, Sind, parts of the Central Provinces and the Himalayas; also in Afghanistan,

Eastern Turkistan and Siberia. Uncommon in Sind. I have never met with it. Mr. Hume has however seen and recorded it.



*Grus cinerea.*

**1279. *Grus cinerea* (Bechst.), Bodd. Pl. En. 769; Gould, B. Eur. pl. 270; Jerd., B. Ind. iii. p. 865; Str. F. i. p. 235; iv. p. 15; Murray, Hdbk., Zool., &c., Sind, p. 213; id., Vert. Zool. Sind, p. 237; Hume and Marsh., Game Birds ii. p. 92 (Koonj, Sind; Kulling, N. India).—The COMMON CRANE.**

Forehead to the middle of the crown covered with black hairy down, through which the red skin shows; behind this nearly bare and entirely so for about two inches on the nape, which is ash grey; chin, throat and foreneck black; a broad white streak from behind the eye, extending along the back of the neck from below the nape and partly on the sides; lores and cheeks black; upper and lower surface of the body dark bluish ashy; greater wing coverts dull black; secondaries and tertiaries grey and tipped with black, the latter in texture resembling the plumes of the ostrich, narrowing to a point, forming an elegant tuft of loose feathers, curled at the ends and falling grace-

fully over the tail ; legs and bare part of the thighs black ; bill greenish brown at the base, tinged blackish in the middle, with the tip dark horny ; irides yellowish, orange red or reddish brown in some.

*Length*.—43 to 46 inches ; wing about 24 ; tail 7 ; tarsus 8·75 to 9 ; bill 4·3 to 4·8.

*Hab*.—Europe, India, N. Africa. In India it is a winter visitant everywhere. Besides occurring in Sind, it is recorded from Rajputana, Kutch, Kattiawar, Deccan, N. Guzerat, Rajputana, Central India, Khandeish, Punjab, N.-W. Provinces, Oudh and Bengal. It has also been found in Afghanistan, Beloochistan and Persia.

When feeding the Common Crane has always a sentinel posted to give the alarm of danger, and hence it is extremely difficult to get within gunshot of the flock. The ordinary procedure is to walk alongside a bullock or horse, as if passing by them, and to fire immediately they rise ; a duck gun with large shot usually brings down 2 or 4 out of a flock. In Sind and probably in other parts of India too, the food of this Crane consists of grain of all kinds ; when in large parties they commit great havoc in wheat fields.

#### Gen. **Anthropoides**.—*Vieill.*

Bill shorter than in *Grus* ; head and neck feathered ; breast feathers lanceolate and hackled ; tarsi long.

**1280. *Anthropoides virgo* (Linn.), Bodd. Tab. Pl. Enl. 241 ; Edw. B. pl. 134 ; *Ferd.*, B. Ind. iii. p. 666 ; Murray, *Hdbk.*, Zool. *8c.*, Sind ; Hume, *Str. F.* iv. p. 15 ; Murray, *Vert. Zool. Sind*, p. 237.**—THE DEMOISELLE CRANE.

Forehead, lores, sides of the face, chin, throat, neck in front, and breast plumes deep black ; ear tufts white, issuing from behind the eye ; primaries black ; secondaries grey, black tipped ; back, scapulars, tertials, upper tail coverts and entire lower surface pale blue grey ; tertials elongated and drooping over the primaries and tail feathers ; most of them with a broad black tip.

*Length*.—31 to 35 inches ; wing 19 to 20 or more ; tail 6 to 7·5 ; tarsus 7 ; bill from gape 2·7 to 3·05 ; tertiaries project about 6 inches beyond the primaries.

*Hab*.—Throughout the greater part of India ; rare in Sind. Occurs in Rajputana, Kutch, Kattiawar, N. Guzerat, Deccan, the Nizam's dominions, where it is rare ; also in Assam, N.-W. and Central Provinces, Central India, Khandeish and Oudh. Occurs also in Afghanistan and Beluchistan and probably also in Persia. In the Deccan, about the Satara and Belgaum districts, as well as in the Concan and South India, it is said to be fairly common, arriving about December.

**Tribe, LONGIROSTRES.—Cuv.**

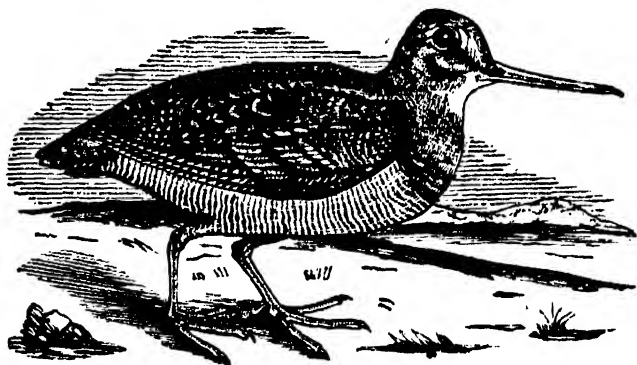
A family of wading birds, in which Cuvier includes the snipe, godwits, ibises, curlews, phalaropes, &c., at the end of which come the avocets. These are nearly all migratory birds, and associate in flocks during winter. The characters by which this tribe is chiefly distinguished are the long slender bill, and long and pointed wings; the hind toe is usually present but wanting in some.

**Family, SCOLOPACIDÆ.**

Bill long, straight, compressed, soft, the point enlarged; the mandibles furrowed for half their length; upper mandible slightly longer than the lower; nostrils lateral, situated basally in a groove and covered by membrane; feet moderate, slender, three toed, not webbed; hind toe present; plumage varied and rich.

**Gen. Scolopax.—Linn.**

Characters same as those of the Family; lower mandible channelled only to the middle; wings long, 1st quill longest; tibia feathered to the knee.



**1281. Scolopax rusticola** Linn., *Syst. Nat.* i. p. 243; *Jerd.*, *B. Ind.* iii. p. 670; *Blyth*, *B. Burm.* p. 157; *Anders.*, *Str. F.* iii. p. 356; *Dresser*, *B. Eur.* vii. p. 615, pl.; *Hume and Dav.*, *Str. F.* vi. p. 458; *Hume*, *Str. F.* viii. p. 112; *Bingham*, *Str. F.* viii. p. 196; *Hume and Marsh.*, *Game Birds* iii. p. 311, pl. *Scolopax rusticula*. *Dav. et Oust. Ois. Chine*; *Legge B. Ceylon*, p. 806; *Oates*, *B. Br. Burm.* p. 380; *Murray*, *Vert. Zool.*, *Sind*, p. 238.—The WOODCOCK.

The peculiar shape of the head of this esteemed bird is almost a sufficient character to identify it among others. The head is more obtusely triangular than round; the eyes are placed above its middle, near the top, and the ears are nearly on a level with the corner of the mouth. Crown of the head ashy, or ashy grey; the nape and back part of the head with four transverse alternate bands of black and rusty red or chestnut brown; a dark streak from the

gape to the eye ; the orbital feather pale buff ; back, scapulars, wing coverts, and upper tail coverts, marbled, spotted, barred, streaked and variegated with black, white, grey, red, brown, rufous and yellow, that it is not possible to describe them with accuracy ; chin pale yellowish brown, or nearly white ; throat and breast pale brown, barred transversely with dark brown ; primaries blackish, with triangular spots of pale reddish brown on both webs ; secondaries and tertiaries blackish, but with the markings more elongated and reaching to the shaft. The whole under parts are yellowish white, numerously barred with transverse dark undulating lines ; tail black, with spots and bars on both webs, the tips ashy grey above and silvery white below ; tibia feathered to the knee. The female is larger, and only differs from the male in this respect and its duller tints.

*Length*.—14 to 16 inches ; wing 8 to 8.25 ; tail 3.25 ; bill at front 3 to 3.2 (upper mandible) ; tarsi 1.5 to 1.8 ; irides dark brown ; legs livid fleshy, as also is the bill with a tinge of grey.

*Hab.*—Europe, Egypt, India, including Burmah, Ceylon and Java. In India it is a summer resident on the wooded ranges of the Himalayas, and a winter visitant to the Neilgherries and the higher ranges of Southern India, parts of the Punjab, Nepaul, Sylhet and Bengal, frequenting damp situations, and feeding on worms, snails, slugs, &c. In Sind it is extremely rare, and is known only by two specimens obtained at Kurrachee. It is also said to occur in North Canara and the Concan, also in Persia, Beloochistan and Afghanistan. It breeds in the Himalayas during June, laying buff-coloured eggs blotched with reddish brown.

#### Gen. *Gallinago*.—*Steph.*

Characters the same as in *Scolopax*. Tibia not feathered to the knee ; tail of 16—18 feathers.

**1282. *Gallinago nemoricola* (Hodgs), *J. rd. Ill. Ind. Orn.* pl. 9 ; *id.*, *B. Ind.* iii. p. 672 ; *Hume, Str. F.* vi. p. 459 ; *id. and Marsh., Game Birds*, p. 325.—The WOOD SNIPE.**

Top of the head black, with rufous yellow longish markings ; upper part of the back black, the feathers margined with pale rufous yellow and often smeared bluish ; scapulars the same, some of them with zigzag markings ; long dorsal plumes black with zigzag marks of rufous grey, as are most of the wing coverts ; winglet and primary coverts dusky black, faintly edged whitish ; quills dusky ; lower back and upper tail coverts barred reddish and dusky ; tail with the centre feathers black at the base and chestnut, with dusky bars towards the tip ; laterals dusky with whitish bars ; beneath the chin white ; the sides of the neck ashy, smeared with buff and blackish ; breast ashy, smeared with buff and obscurely barred ; the rest of the lower plumage,

with the thigh coverts, whitish, with numerous dusky bars; lower tail coverts rufescent, with dusky marks, and the under wing coverts barred black and whitish. Bill reddish brown, paler at base beneath; irides dusky brown; legs plumbeous green. (*Jerd.*)

*Length*.—12·5 to 13 inches; wing 5·75; tail 2·5; bill at front 2·6; tarsus 1·75.

*Hab.*—The Himalayas, Neilgherries, Coorg, Wynaad and other elevated regions in Southern India, affecting brushwood in swampy ground.

**1283. *Gallinago solitaria* (Hodgs.),** *J. A. S. B.* vi. p. 491; *Jerd.*, *B. Ind.* iii. p. 673, No. 869; *Hume and Marsh.*, *Game Birds* iii. p. 333.—The EASTERN SOLITARY SNIPE.

Head above brown, with pale mesial and superciliary lines; a dark band from the base of the bill extending towards the ear coverts; upper plumage as in *G. scolopacinus*, except that the feathers are more spotted and barred with rufous; a pale buff stripe along scapulars and inner edge of the wing; primaries brown, with a narrow pale edging externally and the innermost tipped with white; secondaries and tertiaries broadly barred with dark brown and pale rufous; tail deep black at base, with a broad subterminal band of bright ashy rufous, tipped brown, and the extreme tip pale; outermost rectrices finely barred; breast olive brown, with white dashes of white and brown bars, passing into white on the abdomen and vent, with some olivaceous bands on the upper belly and flanks; sides of the vent and under tail coverts whitish. Bill reddish brown; irides dark; feet greenish yellow.

*Length*.—12·5 inches; wing 6·25; tail 3·2; bill at front 2·75; tarsus 1·2.

*Hab.*—Throughout the Himalayas from Gilgit to Central Bhootan. During the summer it is said to be confined to the higher ranges from elevations of 9,000 feet and upwards to at least 15,000 feet, where they breed during May and June.

**1284. *Gallinago stenura* (Kuhl.),** *Jerd.*, *B. Ind.* iii. p. 674; *G. F. L. Marshall*, *Str. F.* i. p. 423; *Cripps*, *Str. F.* i. p. 456; *Hume*, *Str. F.* ii. p. 294; *Hume and Dav.*, *Str. F.* vi. p. 459; *Murray*, *Vert. Zool. Sind*, p. 239; *Legge*, *B. Ceylon*, p. 816; *Oates*, *B. Br. Burm.* ii. p. 383. *Scolopax stenura* Kuhl., *Bonap. Osserv. Sulla, sec. Ediz. Regn. Anim. Cuv. Monog. Scolopax*, p. 121.—The PIN-TAIL SNIPE.

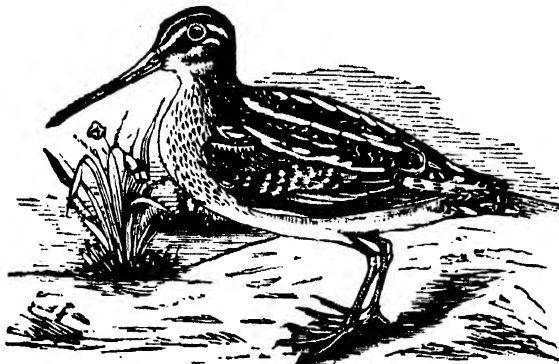
Crown dark brown or black, with a mesial longitudinal pale line; face white, divided by a dark line from the nostrils to the eye and extending to the ear coverts; there is also in some specimens a faint line from the ear coverts to in front of the neck on each side, but not meeting; chin and throat white; neck in front and behind pale fawn brown, barred, streaked or spotted with brown or dark brown; sides of the abdomen like the breast, and transversely barred; middle of abdomen white, barred in some specimens; upper back,



scapulars and wing coverts brown, darker on the mantle and scapulars, the feathers of which are broadly edged with yellow and spotted and streaked with rusty; the scapulars, tertials and wing coverts barred with the same; lower back, rump and upper tail coverts rufescent brown, barred with dusky; under wing lining and axillaries white, distinctly and richly barred with blackish brown; tail basally dark brown, followed by a large oval rufous or rufous buff patch, and a narrow subterminal dark band, tipped pale rufous or the colour of the oval patch; primaries and their coverts, also the secondaries, pale brown or dusky, narrowly margined at the tip with white, both webs unicolorous.

*Length*.—9·75 to 10 inches; wing 4·8 to 5·4; tail 2 to 2·5; tarsus 1·12 to 1·25. Females are larger. Legs and feet plumbeous with a greenish tinge; irides deep brown; bill 2·2 to 2·6; gape and base of bill greenish; rest of bill pale horny, with a dusky tip for about one-third its terminal length. In the females the bills average from 2·45 to 2·7.

*Hab.*—Nearly throughout India, rare in the Punjab, N.-W. Provinces and Sind, also in Rajputana, Kutch and Kattiawar; fairly common in N. Guzerat, Central India and Khandeish. In Bombay, Concan generally, and the Deccan, as well in the Nizam's Provinces, it is plentiful, also in Lower Bengal, east and west of the Brahmapootra. It is recorded from Arracan, Pegu, Tenasserim, the Andamans and Nicobars, where it is most commonly met with. This snipe is a migrant; arrives in Sind about the middle of August, and leaves about the end of March or middle of April. Rice fields, mud swamps, and the vicinity of large rivers, jheels and tanks, where there are sedges and rushes, are the selected spots of the Pin-tail, at least in Sind.



**1285. *Gallinago scolopacina*, Bonap., *Comp. list*, *B. Eur. and N. Amer.* p. 52; *Ferd.*, *B. Ind.* iii. p. 674, No. 871; *Hume*, *Nests and Eggs Ind.* B. p. 586; *Hume and Dav.*, *Str. F.* vi. p. 459; *Legge*, *B. Ceylon*, p. 820; *Murray*, *Vert. Zool.*, *Sind*, p. 240. *Scolopax gallinago*, *Linn.*, *Syst. Nat.* i. p. 244. *Scolopax coelestis*, *Frenzl.*, *Beschr. der Vogel und ihrer Eier in der***

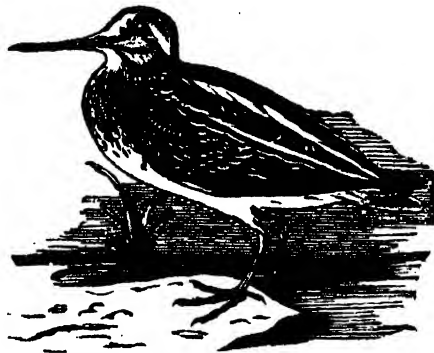
*Gegend Von Wittenberg* p. 58. *Gallinago gallinaria* (Gm.), *Cripps, Str. F.* vii. p. 302; *Hume, Str. F.* viii. p. 112; *Bingham, Str. F.* viii. p. 112. *Gallinago coelestis*, *Dresser, B. Eur.* vii. p. 641, pl.; *Hume and Marsh., Game Birds* iii. p. 359; *Oates, B. Br. Burmah*, p. 381.—THE COMMON SNIPE.

Crown of the head black, with a mesial longitudinal white, yellowish, or rusty white line; a superciliary on each side from the base of the upper mandible of the same colour, and a dark streak below it to the eye; sides of the head spotted with dusky grey, tinged ferruginous brown; chin and throat white, or nearly white; neck on the sides and in front yellowish white, spotted with brown; breast white, brown, pale yellowish or ferruginous on the upper part, and spotted with dusky; the sides greyish white, barred with dark brown; back and scapulars velvety black, the feathers broadly edged with yellow, and barred and spotted with chestnut brown; the yellow edges to the feathers forming four conspicuous lines on the back; upper tail coverts barred with alternate bars of dusky black and pale yellowish brown, somewhat rufescent; the under tail coverts pale yellowish fawn, also barred with dusky or dark brown; the middle of the abdomen is white, in some specimens tinged with pale buffy fawn; axillaries and flanks white, barred with dusky or dark brown, but not so broadly, close and numerous as in *Stenura*; under wing lining white, a few bars only on the edge of the wing; a white patch always conspicuous in the centre of the wing; greater and lesser wing coverts dusky or dark brown, barred with rufescent, and edged and tipped with pale white or cream colour; primaries dusky or dark brown, *the first with its outer web white*; secondaries dusky or dark brown, broadly tipped with white; the outer edges of their inner webs white, and treated with dusky; the inner webs of the primaries also whitish basally and mottled minutely with dusky; tertiaries rufescent, barred with dark brown; tail black at the base, with an oval patch of rusty orange or ferruginous, then a subterminal narrow band, and tipped with buffy or pale reddish yellow, in some specimens white; legs pale green; bill terminally for one-third or more of its length deep brown, the rest basally horny brown with a green and yellowish tinge; its length from gape, of males 2.39 to 2.7; at front 2.43 to 2.75; of females 2.62 to 3.0 at front, rather flat at the tip.

*Length, Male.*—9 to 11 inches; wing 4.9 to 5.5; tail 2.5 to 2.8. *Females* larger.

*Hab.*—Throughout India and Burmah as a winter visitant, also Persia, Beloochistan and Afghanistan. Arrives in Sind about the beginning of September and leaves in April, and with the Jack Snipe is tolerably abundant everywhere. It is a very vigilant bird, and in consequence difficult to shoot, especially in bogs and moist localities where rushes are present. In such retreats, three, four or half-a-dozen may be seen at a time, walking leisurely, with head erect, and constantly on the alert; and at the first note of alarm,

they rise, and soon get out of gunshot. This species, it need hardly be mentioned, is held in much esteem for the table.



*Gallinago gallinula*. The Jud-Cock.

**1286. *Gallinago gallinula* (Linn.),** *Ferd.*, *B. Ind.* iii. p. 676; *Hume, Str. F.* iii. 182; *Blyth, B. Burm.* p. 157; *Dav. et Oust. Ois Chine*, p. 479; *Dresser, B. Eur.* vii. p. 653; *Hume and Dav., Str. F.* vi. p. 459; *Cripps, Str. F.* vii. p. 302; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 828; *Hume and Marsh., Game Birds* iii. p. 373, pl.; *Hume, Str. F.* x. p. 239 (note); *Oates, B. Br. Burm.* ii. p. 384; *Murray, Vert. Zool., Sind*, p. 241. *Scolopax gallinula*, *Linn., Syst. Nat.* i. p. 244.—The JACK SNIFE or JUD-COCK.

Crown of the head with a mesial longitudinal black streak from the top of the upper mandible; on each side of this a yellowish or cream-coloured streak extending above the eye as a superciliary, and in some specimens separated from the orbital region by a dark streak; a dusky line from the gape to the eye, and another from below it curving downwards to the ear coverts; the space between the two streaks white or cream colour; chin and throat white, greyish, or pale brown; sides of the head greyish, greyish white, or brownish white, spotted with brown and pale red; neck behind and nape ferruginous or greyish brown, streaked or spotted with dusky; breast pale yellowish brown or dusky, spotted or dashed with darker brown; abdomen white; flanks dashed with brown and pale ferruginous; axillaries pure white, with faint, almost obsolete dusky markings; back and scapulars rich black, with bronze green and purple reflections, the feathers of the upper back and scapulars edged on their outer webs broadly with rich cream yellow, forming two conspicuous longitudinal bands along each side; lower back and rump glossy blue black (specimens in August very narrowly margined with albescent); primaries dusky, the basal half of the first paler, *not white*; inner primaries narrowly margined at the tip with albescent; secondaries dusky, broadly tipped with white; tertiaries dusky on their inner webs, spotted and

streaked with reddish or yellowish brown on their outer webs; tail dusky or dark brown, edged near the tips with pale ferruginous; under tail coverts white; legs and feet pale greenish; irides deep brown.

*Length*.—8·5 inches; bill dark brown at the tip, 1·6 to 1·8 inches in length at front; wing 4 to 4·6 inches; tail 1·8 to 2·2.

*Hab.*—Everywhere in India, and more plentiful than the common snipe, with which it is generally associated. In Sind small parties begin to arrive about the 26th August, or a few days earlier than the common snipe. It is a difficult bird to flush, seldom rising until nearly trampled upon. It prefers deep cover at all times, but I have often seen them on the oozy, semi-fluid mud of back waters, where there was not even a stubble for cover.

### Gen. *Rhynchæa*.—*Cuv.*

Bill shorter than in *Gallinago*, curved downwards at the tip; wings rounded; tarsi long; tibia nearly entirely bare.

**1287. *Rhynchæa capensis*, Linn., *Syst. Nat.* i, p. 246.** *Rhynchæa Bengalensis*, *Ferd.*, *B. Ind.* ii. p. 677; *Hume, Nests and Eggs Ind.* *B.* p. 586; *Salvad., Ucc. Born.* p. 335; *Blyth, B. Burm.* p. 157; *Butler, Str. F.* iv. p. 15; v. p. 223; *Dav. et Oust. Ois. Chine.* p. 480; *Wardlaw-Ramsay, Ibis*, 1877, p. 469; *Hume and Dav., Str. F.* vi. p. 459; *Cripps, Str. F.* vii. p. 302; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 800; *Bingham, Str. F.* ix. p. 197; *Hume and Marsh., Game Birds* iii. p. 381, pl.; *Oates, Str. F.* x. p. 239; *Murray, Vert. Zool., Sind*, p. 242; *Oates, B. Br. Burm.* ii. p. 386.—The PAINTED SNIPE.

Crown of the head with a broad mesial longitudinal line, bordered by dark brown, nearly black feathers, which form a line from the sides of the upper mandible to the nape, where it is broader than in front; a yellowish buff circle round the eye, and a line behind it; chin and throat whitish, the feathers with some faint dusky spots; neck in front and breast olive brown, the feathers with white spots and bars; the feathers on the lower part of the sides and middle of the breast nearly dark brown, forming a dark pectoral band, another similar band below this with a white interspace, but not meeting on the breast; hind neck olivaceous, finely marked with dark transverse striæ; mantle and scapulars dark brown, with dark margined buffy yellow and white bars; wing coverts and tertiaries pale olive, with black margined transverse bands or bars of rufous buff, broader and more conspicuous on the tertiaries; outer web of the first primary grey brown, the rest paler, and all with 5—6 buff or rufous buff ocelli; the interspaces between the basal three ocelli deep black, and between the terminal ones greyish brown; inner webs of primaries with white bars and dark wavy lines and marblings; secondaries ash-grey, ocellated with buff on their outer webs, the interspaces basally black and terminally with dark brown wavy lines; their inner webs, like the

primaries, with white bars and wavy lines, and the tips margined with white, the patterns showing through paler on the under side of the wing; tail ashy grey, with buff ocelli on both webs, and tipped with buff; abdomen, vent and under tail coverts white. The female has the lores, sides of the face, upper breast and back of neck chestnut, the feathers edged whitish on the upper breast; back, scapulars and wing coverts, also the tertiaries, dark olive with narrow, close, black striæ, the outermost tertials white, otherwise as in the male. Bill reddish brown; irides deep brown; legs and feet greenish.

*Length*.—9 to 10 inches; wing 4·9 to 5·2; tail 1·5 to 1·8; bill at front 1·8 to 2 inches.

*Hab*.—Sind, Kutch, Kattiawar, Rajputana, Central India, Punjab, N.-W. Provinces, British Burmah and Ceylon. Breeds in Sind during May and June, and in nearly all localities where it occurs.

#### Gen. *Limicola*.—*Koch*.

Characters same as *Rhynchœa*; bill broad and depressed.

**1288. *Limicola platyrhyncha*** (*Temm.*), *Salvad.*, *Ucc. Born.* p. 322; *Dresser*, *B. Eur.* viii. p. 3, pl.; *Hume and Dav.*, *Str. F.* vi. p. 461; *Hume*, *Str. F.* viii. p. 113; *Legge*, *B. Ceylon*, p. 896; *Oates*, *Str. F.* x. p. 240; *id.*, *B. Br. Burm.* ii. p. 387; *Murray*, *Vert. Zool.*, *Sind*, p. 252. *Tringa platyrhyncha*, *Temm.*, *Man d'Orn.* p. 398; *Ferd.*, *B. Ind.* ii. p. 692, No. 886; *Blyth*, *B. Burm.* p. 156.—THE BROAD-BILLED SANDPIPER.

In winter, the crown of the head, back, scapulars and wing coverts are ashy brown, tinged with rufous; neck and cheeks white, spotted with brown; primaries and tail brown, the latter edged with pale reddish ashy; lower parts white; the flanks, breast and under tail coverts tinged with rufous. In summer dress the Broad-billed Sandpiper has the crown of the head brownish black, varied with greyish; the neck on the sides and in front greyish white, with black spots, and tinged with buffy; chin white, with a few dark spots; lower back black, with fulvous white or rufous margins to the feathers.

*Length*.—6·5 to 6·75 inches; wing 3·9 to 4·32; bill at front 1·27 to 1·37; tarsi 0·94; irides deep brown; legs and feet dusky black.

*Hab*.—The Indian Coast generally. Occurs commonly at Kurrachee and along the Mekran Coast, also at Kutch and in Bengal. Recorded from Arracan, also from Pegu, and Amherst in Tenasserim. Frequents sea-coasts and tidal rivers.

#### Sub-Family, TRINGINÆ,—STINTS, &c.

Bill rather long, flat and wide, keeled near the tip, somewhat flexible; nostrils in a groove, extending two-thirds the length of the bill; wings long; toes divided or narrowly webbed.

Gen. **Eurynorhynchus**.—*Nilsson*.

Bill much depressed, broad, flat, ridged in the centre at the base, and ending in a flat somewhat obcordate, expanded tip, which terminates in a deflected point; nostrils basal; toes cleft, with a small web between the outer and middle toes. (*Ferd.*)

**1289. Eurynorhynchus pygmæus** (*Linn.*), *Harting, Ibis*, 1869, p. 427, pl. xii.; *Blyth, B. Burm.* p. 156; *Dav. et Oust. Ois. Chine*, p. 474; *Hume and Dav., Str. F.* vi. p. 463; *Hume, Str. F.* viii. p. 113; *Oates, B. Br. Burm.* ii. p. 395. *Platalea pygmæa*, *Linn., Syst. Nat.* i. p. 231. *Eurynorhynchus griseus* (*Nilss.*), *Temm., Man d'Orn.* ii. p. 594; *Ferd., B. Ind.* iii. p. 693, No. 887.—The SPOON-BILLED STINT.

In summer the head and upper parts are ferruginous, the feathers with dark brown centres; breast ferruginous; throat and breast margined with white; under surface of the body from below the breast becoming whiter towards the tail; primaries dark brown; legs and feet black; bill black; irides deep brown.

*Length.*—6·5 to 6·7 inches; wing 4·1; tail 1·7; tarsus 0·8; bill from gape 1.

In winter plumage the forehead, crown and hind neck, white; back and scapulars are hair brown, each feather with a darker shaft streak; lores ashy white; cheeks, ear coverts and sides of the neck whitish, streaked with brown; rump and upper tail coverts dusky brown, the feathers edged paler; tail brown, the inner webs of all the feathers except the central pair white; shafts of the lateral feathers whitish; lesser wing coverts uniform hair brown; median and greater coverts dark brown, broadly edged with white; quills dark brown, with white shafts; under surface of the body, including the axillaries and under wing coverts, white; the sides of the breast streaked with brown.

*Length.*—6·5 inches; wing 3·7; tail 1·5.

*Hab.*—Arracan, Pegu, Tenasserim, and the mouth of the Ganges, usually found in the company of other Stints.

Gen. **Tringa**.—*Linn.*

Toes edged by membrane; wings with the first quill longest; bill straight or slightly bent and obtuse at the extremity.

**1290. Tringa minuta**, *Leisl. Nacht., zu Bechst. Naturg. Deutsch* i. p. 74; *Ferd., B. Ind.* ii. p. 690, No. 884; *Dresser, B. Eur.* viii. p. 29, pl.; *Hume, Str. F.* i. p. 242; *Legge, Str. F.* i. p. 491; *id., B. Ceylon*, p. 884; *Murray, Vert. Zool., Sind*, p. 257; *Oates, B. Br. Burm.* ii. p. 389.—The LITTLE STINT.

In winter the upper parts are ashy or pale earthy brown, the feathers of the back, scapulars, tertials and lesser and median wing coverts mesially dusky or dark brown, and in some very narrowly edged with whitish. There is a

dark spot in front of the eye, and a pale white supercilium; the chin, throat, centre of the breast and rest of the under surface, including the vent, axillaries and under tail coverts, are white; sides of the breast ashy brown; primaries mostly white shafted, dusky brown, slightly paler on their inner webs; secondaries white, basally and also narrowly tipped with white; greater wing coverts tipped with white, forming a conspicuous wing band; rump, upper tail coverts and two central tail feathers dusky or dark brown; lateral tail feathers pale ashy.

*Length*.—6·6 inches; expanse 13·1; tail 2·3; tarsus 0·9; wing 3·8; bill at front 0·6; irides deep brown; legs black.

*Hab*.—Nearly throughout Europe and India, also Java, Formosa, Australia and China. In Sind, along the coast; also in the Kurrachee harbour; inland on the large pieces of water and on the Munchur Lake, this Little Stint is extremely common, also on the Mekran Coast, the Punjab, N.-W. Provinces, Oudh, Bengal, Burmah, and Ceylon. Occurs in Persia, Beloochistan (Quetta), Afghanistan, and in fact has a very wide distribution. In the Concan, Deccan and Southern India generally it is equally abundant.

**1291. *Tringa subminuta*, Midd., Sib. Reise. Vog. p. 222. Taf., xix. p. 6; Legge, B. Ceylon, p. 889; Oates, B. Br. Burm. ii. p. 391. *Tringa damacensis* (Horsf.), apud Hume, Str. F. i. p. 243. *Tringa salina* (Pall.), apud Legge, Str. F. i. p. 491; Dresser, B. Eur. viii. p. 33; Blyth and Wald., B. Burm., p. 156. *Tringa ruficollis* (Pall.), apud Wald. Trans. Zool. Soc. ix. p. 234; Hume, Str. F. viii. p. 113; Oates, Str. F. x. p. 240.—The LONG-TOED STINT.**

*Summer Plumage*.—Forehead, top of head and nape dark brown, each feather with an edging of rich rufous on the terminal half; lores, cheek and ear coverts the same; an albescent patch in front of the eye above the lores; upper part of the throat pure white; lower throat streaked with small marks of pale rufous brown; sides of throat, neck, upper breast and sides of body pale rufous brown, each feather with a central dark brown streak; lower breast, abdomen and vent pure white; under tail coverts white, each feather with a long, narrow central brown streak; thighs rufescent; upper neck mixed brown and pale rufous; whole upper plumage, including the scapulars and tertiaries, rich blackish brown, each feather broadly tipped with bright rufous; rump and upper tail coverts glossy black, few of the feathers of the latter obsoletely tipped white; centre tail feathers black, edged with rufous, the others pale brown, tipped and margined internally with white; axillaries white, a little brown at their bases; under wing coverts pale brown, edged with white; shaft of first quill sordid whity brown, those of the others dark hair brown; primaries and secondaries dark brown, all tipped with white except the first six primaries; all the primaries except the first three with a median narrow margin of white on the outer web; upper coverts brown, all

more or less tipped and margined with dull white. In winter it resembles *T. minuta* in general appearance, but the upper plumage is darker; the forehead and face where white in *T. minuta* are streaked with brown in *T. subminuta*; the greater wing coverts and secondaries are very narrowly tipped with white, and the sides of the neck and the chest are thickly marked with brown streaks. Iris brown; bill olive-brown; legs and toes pale brown; claws nearly black.

*Length*.—6·2 inches; tail 1·4; wing 3·7; tarsus 0·8; middle toe and claw nearly an inch; bill from gape 7·5. The female is of the same size. This Stint may be recognized by the great length of its toes, the middle one, including its claw, measuring frequently little short of an inch in length. It resembles *T. minuta* in having the outer tail feathers brown, but differs in having the shafts of all the primaries brown, except that of the first quill, which is dull white. From *T. Temmincki* it may be separated by the colour of its outer tail feathers as well as by its long toes. (*Oales*.)

*Hab*.—Arracan, Pegu and Tenasserim. Found also seasonally in N.-E. Siberia through China and Mongolia to Burmah, extending on the west to Bengal, the Eastern Coast of India and Ceylon, and ranging southwards to the Malay Peninsula, Java, Borneo, Celebes, and the Phillipines.

**1292. *Tringa Temmincki*, Leisler, Nacht. 'su Bechst. Naturg. Deutsch. i. p. 63; Jerd., B. Ind. iii. p. 691; Dresser, B. Eur. viii. p. 45, pl.; Hume, Str. F. i. p. 244; iii. p. 183; Blyth, B. Burm. p. 156; David et Oust. Ois. Chine, p. 43; Hume and Dav., Str. F. vi. p. 461; Hume, Str. F. viii. p. 113; Legge, B. Ceylon, p. 892; Murray, Vert. Zool., Sind, p. 251; Oales, B. Br. Burm. ii. p. 392.—TEMMINCK'S, OR THE WHITE-TAILED STINT.**

Upper parts as in *minuta*; chin, throat and supercilia white; a dark spot in front of the eye; breast and lower neck ashy brown; belly, vent and under tail coverts white; four central tail feathers dusky brown, the rest white; legs pale horny green, or greenish olive.

*Length*.—6 to 6·25; inches; wing 3·8; bill at front 0·7; irides deep brown.

*Hab*.—As the last and associated with it everywhere.

**1293. *Tringa crassirostris*, Temm. et Schleg., Faun. Jap., Aves, p. 107, pl. lxiv.; Hume, Str. F. i. p. 240; Salvad., Ucc. Born. p. 325; Wald., Ibis, 1874, p. 147; Armstrong, Str. F. iv. p. 341; David et Oust. Ois. Chine, p. 468; Hume, Str. F. viii. p. 113; Murray, Vert. Zool. Sind, p. 249; Oales, Str. F. x. p. 240; id., B. Br. Burm. ii. p. 393.—THE THICK-BILLED STINT.**

The following is Mr. Hume's description of the species.

"In the winter plumage the upper surface reminds one not a little of that of *Totanus stagnatilis*. The whole lower parts are white, but the base of the neck in front and the sides are marked with numerous small brown striæ, and



the upper breast, besides having more or less of these striations, is mottled with larger pale brown spots, here and there interspersed with conspicuous heart-shaped blackish brown spots, which are the first traces of the coming summer plumage. Lores, top, back and sides of the head and neck very pale greyish brown, all the feathers narrowly streaked along the shaft with dark brown; the upper back and whole mantle is a mixture of pale brown and ashy, most of the feathers with blackish shafts, more or less darkly centred, and all conspicuously, though narrowly, margined and tipped with white. Lower back and rump brown, the feathers narrowly and regularly margined with white; upper tail coverts similar, but the white margins much broader, and the brown more or less obsolete on many of them. Tail feathers greyish brown, greyer and somewhat darker on the central ones, and paler and browner on the external ones; all are excessively, narrowly, in fact almost obsoletely, bordered with white. The primaries and their greater coverts are hair brown, most of the latter tipped white; the secondaries and their greater coverts are a pale, somewhat greyish brown, all of them narrowly, but the coverts less narrowly of the two, margined with white. The wing lining, except just at the margin of the wing, which is mottled with brown, pure white; the axillaries white with traces of irregular, wavy pale brown bars. There are a few elongated triangular pale brown dashes on the flanks, and in some specimens one or two larger blackish brown spots pertaining to the summer plumage."

According to Schlegel, the summer plumage is as follows:—

"Feathers of the head and neck each with a large dark brown longitudinal streak or spot on an albescent ground, which is tinged with brownish rufous on the nape. Feathers of the breast and nape brownish black, each with a whitish transverse band, often tinged with brownish red towards the middle. The rest of the lower parts and the rump pure white, spotted, except towards the middle of the abdomen, with broader or narrower dark spots. Back and wings brownish black, lighter on the wing coverts; all the feathers spotted and bordered with a bright brownish rufous, gradually disappearing towards the edge of the wing. Lower wing coverts white, becoming black at the base.

"Bill black, sometimes paler at the base of lower mandible; legs and feet dusky, greenish dusky, yellowish plumbeous or pale plumbeous, according, I suppose, to age or seasonal progress.

"*Length*.—11·35 to 12 inches; expanse 23·5 to 24; tail from vent 2·7 to 2·8; wing 7·1 to 7·3; bill at front 1·6 to 1·85; tarsus 1·4 to 1·55; wings when closed reach from 0·3 to 0·4 beyond end of tail."

*Hab.*—Kurrachee (Sind) and the Beloochistan Coast. Common during winter in the Kurrachee harbour and along the Mekran Coast. In Arracan and the delta of the Irrawaddy, as well at the Andamans. Recorded also from Australia and Java.

**1294. *Tringa subarquata*.** *Gould, Nov. Comm. Petrop.* xix. p. 471, t. xviii.; *Ferd., B. Ind.* ii. p. 689; *Blyth, B. Burm.*, p. 156; *Dresser, B. Eur.* viii. p. 59; *Hume and Dav., Str. F.* vi. p. 460; *Legge, B. Ceylon*, p. 879; *Oates, Str. F.* x. p. 240. *Pelidna subarquata*, *Oates, B. Br. Burm.* ii. p. 394; *Salvad., Ucc. Born.* p. 322.—The CURLEW STINT.

*Winter Plumage*.—Bill curved downwards. Head, on the crown and sides, back of the neck and nape light greyish brown, streaked with darker brown and dusky black, with an olivaceous gloss; face and supercilia white, and a dark streak from the gape to the eye; sides of the neck and in front greyish, streaked with brown; breast the same; abdomen and upper and lower tail coverts white; back, scapulars and wing coverts ashy brown, the shafts darker; tail ashy grey, edged with white; primaries dusky brown, also the secondaries, which are tipped with white; axillaries white; lesser coverts grey, the shafts darker. Bill black; irides brown; legs dusky grey.

*Length*.—8 to 10 inches; wing 5; tail 1.75; bill at front 1.6. In summer plumage the forehead is whitish, mixed with pale reddish brown; supercilia pale yellowish white; chin white; head, neck and nape ferruginous with dark margins; throat, breast and upper abdomen chestnut; in a specimen obtained on 20th May the feathers are all narrowly edged with white; back, scapulars and tertiaries black; also the lesser coverts, the feathers edged with chestnut.

*Hab.*—India generally, and Ceylon, also Beloochistan, Persia and Afghanistan. Recorded from Cashmere and Egypt, also from Australia and Java. Common also in the low tidal portions of the plains between the Pegu and Sittang rivers and in the Irrawady delta. Recorded also from Arracan and the Tenasserim Coast. Found commonly along the Sind and Mekran Coasts and on the large dhunds, not far inland. It occurs in Kutch and Kattiawar and on the Bombay Coast in some numbers, also in the Kurrachee harbour.

**1295. *Tringa cinclus*,** *Linn., Syst. Nat.* p. 246; *Bodd., Tab. Pl. Enl.* 852; *Gould, B. Eur.* pl. 329; *Ferd., B. Ind.* iii. 690; *Str. F.* i. p. 242; *Dresser, B. Eur.* viii. p. 86, pl.; *Murray, Hdbk., Zool., &c., Sind*, p. 220; *id., Vert. Zool. Sind*, p. 247. *Tringa alpina*, *L.*—The DUNLIN.

Crown of the head, lores and cheeks ashy brown; a pale white supercilium from the base of the bill over each eye; back and scapulars pale ashy brown, the feathers dark shafted and edged paler; lesser and median coverts brown, edged paler, tipped with whitish; throat, breast, belly, vent and under tail coverts pure white, the breast with a few brown streaks; tail with the two central feathers dusky or deep brown, the rest ashy and edged whitish.

*Length*.—6.5 to 7.5 inches; wing 4.5; tail 1.87; bill at front 1.25, black; legs greenish dusky; irides brown.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Guzerat, Kutch and Kattiawar Coast. A winter visitant, arriving about the middle of September.

In the Kurrachee harbour the Dunlin is simply numerous, also on the Mekran Coast, where they may be seen running nimbly near the edges of the sea or skimming along near the surface in fairly large flocks.

Gen. **Machetes**—*Cuv.*

Bill straight ; first and second quills of wing longest ; outer toe united as far as the first joint ; hind toe short and elevated.

**1296. Machetes pugnax** (Linn.), *Dresser, B. Eur.* viii. p. 87, pl. ; *Hume and Dav., Str. F.* vi. p. 460 ; *Hume, Str. F.* viii. p. 112 ; *Scully, Str. F.* viii. p. 357 ; *Legge, B. Ceylon* p. 873 ; *Oates, Str. F.* x. p. 240. *Tringa pugnax*, Linn., *Syst. Nat.* 1, p. 247. *Philomachus pugnax*, *Ferd., B. Ind.* ii. p. 687 ; *Murray, Vert. Zool., Sind*, p. 248.—The RUFF.

In winter the plumage of these birds is very variable, the upper parts are from pale earthy to rich brown, the feathers with black or dark brown central spots and fulvous edges ; the head, nape and neck behind paler ; chin and throat white ; neck in front and breast pale earthy or grey brown, the feathers margined at the tip with white ; abdomen, vent and under tail coverts white ; primaries dark brown ; secondaries paler, edged and margined at the tip with white ; greater coverts tipped white, forming a wing band ; the lesser and median ones black, edged with rufous or reddish brown, also the greater coverts in some stages. The plumage is so variable, that out of 50 skins or more, no two birds would be found alike. During summer or in their breeding plumage the males acquire a ruff, which is very variously coloured and stands erect behind the head, the face is covered with reddish tubercles and the upper parts and breast marked with transverse bars. Bill dusky ; irides brown ; legs fleshy yellow.

*Length.*—12 to 12·5, inches ; wing 7·25 ; tail 2·5 ; bill at front 1·3 ; tarsus 2.

*Hab.*—Throughout India and Ceylon, and in great numbers during winter. Occurs also in Beloochistan, Persia and Afghanistan. Breeds in Europe. During spring on their return to the breeding grounds, generally the fens, they become very pugnacious, the females being "*causa terrima belli*." Being polygamous, the Ruffs, on hearing the cry of a female or seeing one, immediately rouses itself, and begins a fight with others ; their combats are described as being both desperate and long ; at the end of the fight the female, it is said, becomes the mate or prize of the victor. Buffon says—"They not only contend with each other in a single rencounter, but they advance to combat in marshalled ranks." "Their actions in fighting," according to Selby, "are very similar to those of a game cock, with the head lowered, and the beak held in a horizontal position ; the ruff and every feather distended, the former sweeping the ground as a shield ;" and he adds "that in such feuds their contests are often attended by fatal consequences."

Gen. **Calidris**.—*Cuv.*

Hind toe wanting, otherwise as in *Tringa*.

**1297. *Calidris arenaria*** (Linn.), *Jerd.*, *B. Ind.* iii. p. 694; *Hume*, *Str. F.* i. p. 244; *Salvad.*, *Ucc. Born.* p. 322; *Armstrong*, *Str. F.* iv. p. 343; *Hume*, *Str. F.* iv. p. 465; *Dresser*, *B. Eur.* viii. p. 101, pl.; *Hume*, *Str. F.* viii. p. 113; *Legge*, *B. Ceylon*, p. 1220; *Oates*, *Str. F.* x. p. 240; *Murray*, *Vert. Zool., Sind.*, p. 252; *Oates*, *B. Br. Burm.* ii. p. 398.—The SANDERLING.

In winter the forehead, lores, cheeks, chin, throat, breast, neck in front, belly, thighs, vent and under tail coverts white; crown of the head, sides of the neck and breast, back and scapulars cinereous or ashy brown, the feathers with dark shafts; shoulders and edge of the wing dark brown; median and greater coverts like the back, dark shafted and tipped white; primaries dark brown, all white shafted; their inner webs ashy, and the four middle ones white on their outer webs, forming in the closed wing a wedge-shaped spot; secondaries brown or dusky, tipped with white; rump and upper tail coverts brown, edged with white; tail brownish ash, edged with white, the two central feathers darker than the rest; bill black, 0·93 to 1 inch in length.

*Length*.—7·5; wing 4·75; tail 2; tarsus 0·92; irides deep brown; legs black.

*Hab.*—Kurrachee (Sind), Beloochistan Coast, Persia, Ceylon, Kutch, Guzerat, Concan and South India, also the Laccadives, the West Coast, and the Irrawaddy delta. In the Kurrachee harbour extremely abundant, associated with the Stints on the sea-shore.

## Sub-Family PHALAROPINÆ.

Bill straight, curved at the tip; tarsi short; toes lobed on the sides, united at the base; hind toe edged with narrow membrane.

Gen. **Phalaropus**.—*Briss.*

Bill long; 1st and 2nd quills of wing longest.

**1298. *Phalaropus hyperboreus*** (Linn.), *Edw. B.* pl. 143; *Bodd.*, *Tab. P. E.* 766; *Gould*, *B. Eur.* pl. 336; *Jerd.*, *B. Ind.* iii. p. 696; *Str. F.* i. 246; ii. 338; v. 290; vii. 487; *Murray*, *Hdbk., Zool., &c., Sind.*, p. 221; *id.*, *Vert. Zool., Sind.*, p. 253.—The LESSER COOT-FOOTED STINT or the RED-NECKED PHALAROPE.

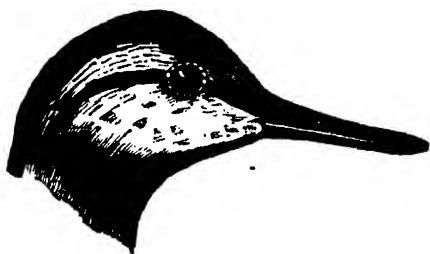
Crown, back of neck and nape dark lead or slaty; in winter the forehead is white, tinged with grey; the streak over the eye, and the crown and nape are blackish grey; the neck on the sides is fine yellowish red, which in winter wears away into white, with sometimes a tinge of purple; in front dark grey

with a white edging ; chin white ; throat fine yellowish red, and in winter white, with a slight tinge of pink ; breast white, with some streaks below on the sides of a pale ash colour, and in winter with a faint blush of purple red ; back dark or blackish lead colour, the feathers with a margin of ash grey and brownish yellow ; greater wing coverts dark lead colour, tipped with white, forming a distinct bar across the wing in winter ; lesser wing coverts dark lead colour ; primaries very dark brown, black in winter ; secondaries margined with reddish yellow on the outer web, which in the winter plumage is white ; tail brownish grey margined with white, the two middle feathers darkest, nearly black ; under tail coverts white ; legs and toes dusky greenish grey ; claws black ; lores dusky greenish.

*Length*.—7·25 ; wing 4·25 ; expanse 14·0 ; tail 2·19 ; bill at front 0·81.

*Hab*.—Kurrachee, Mekran Coast and Persian Gulf, also Afghanistan. On the Continent of Europe it occurs in France, Holland, Germany, Italy and Sweden.

**1299. *Phalaropus fulicarius*, Linn., *Syst. Nat.* 1. p. 737 ; *Ferd.*, *B. Ind.* iii. p. 695 ; *Str. F.* i. p. 245 ; vii. p. 487.**—The COOT-FOOTED STINT.



Head of *Phalaropus fulicarius*.

*Winter Plumage*.—Forehead and crown white ; occiput, ear coverts, and a streak from the nape of the neck, dusky grey ; back, scapulars and rump bluish ashy, the shafts of the feathers dusky ; wing coverts tipped with white, forming two bars across the wing ; tail dusky grey, the feathers edged with cinereous ; throat, sides of the neck, middle of breast and all the under parts white ; the sides of the breast ashy ; a black patch under the eye. Bill yellowish red at base, dusky brown at tip ; irides reddish yellow ; legs greenish grey.

*Length*.—8·5 inches ; wing 5 ; tail 2·5 ; bill at front 0·8 ; tarsus 0·8.

In Summer the crown of the head and throat are black, the sides of the head white, a black streak behind the eye, neck, breast and belly, also the vent, ferruginous, with vinous reflections ; back dusky, with reddish yellow webs ; lesser wing coverts dark ash, slightly edged with white ; greater coverts the

same, broadly tipped with white, forming an oblique double bar across the wing; tertiaries black, with pale edges; primaries and tip of tail black; legs and toes dingy yellow.

*Hab.*—Europe and Asia. In India only found as yet in Bengal along the coast.

### Sub-Family. TOTANINÆ.—SAND-PIPERS.

Bill grooved as far as, or beyond, the middle, moderately long, the tip hard and pointed; nostrils narrow; hind toe long and slender, barely reaching the ground.

### Gen. *Actitis*.—III.

Groove of the bill extending quite to the tip; 1st quill of wing longest.

**1300. *Actitis hypoleucos* (Linn.), *Ferd.*, *B. Ind.* iii. p. 699, No. 893; *Blyth*, *B. Burm.* p. 155; *Murray*, *Vert. Zool.*, *Sind*, p. 253. *Tringa hypoleucos*, *Linn.*, *Syst. Nat.* i. p. 250. *Tringoides hypoleucos*, *Hume*, *Nests and Eggs Ind.* *B.* p. 588; *id.*, *Str. F.* ii. p. 299; iii. p. 183; *Salvad.*, *Ucc. Born.* p. 326; *Hume*, *Str. F.* viii. p. 113; *Legge*, *B. Ceylon*, p. 867; *Oates*, *Str. F.* x. p. 241. *Totanus hypoleucos*, *Dresser*, *B. Eur.* viii. p. 127; *Bingham*, *Str. F.* ix. p. 197.—THE COMMON SAND-PIPER.**

Forehead, crown, nape and back of the head ashy brown, streaked with dark narrow lines; supercilium white, also the orbital ring, chin and throat; sides of the face pale ashy with brown streaks; middle of the breast white, the sides mottled or streaked with brown, or entirely brown; back, scapulars, tertiaries and lesser wing coverts ashy brown, glossed with green, and with fine transverse dark lines; greater wing coverts ashy brown, tipped with white, which with the white bases of the secondaries form a conspicuous wing band; primaries and their coverts dark brown, the latter tipped with white, and all, except the first primary, and sometimes the second also, with a large white spot on their inner webs; lower back, rump and upper tail coverts ashy brown, with dark transverse bars; four central feathers of the tail like the back, the rest tipped with white and with dark spots along their edges; beneath white. Bill dusky; irides brown; legs pale green.

*Length.*—7 to 8 inches; wing 4·5; tail 2·4; tarsus 0·97 to 1; bill 0·97.

*Hab.*—Less common than the two preceding; affects the sea coast as well as lakes, &c., inland. Occurs throughout India, Burmah, Malacca, Ceylon, &c.; also Beloochistan, Persia and Afghanistan.

**1301. *Actitis ochropus* (Linn.), *Ferd.*, *B. Ind.* iii. p. 698, No. 892; *Blyth*, *B. Burm.* p. 155; *Murray*, *Vert. Zool.*, *Sind*, p. 254. *Tringa ochropus*, *Linn.*, *Syst. Nat.* i. p. 250. *Totanus ochropus*, *Hume*, *Str. F.* iii. p. 183; *Dresser*, *B. Eur.* viii. p. 135, pl.; *David et Oust.* *Ois. Chine*, p. 465; *Hume and Dav.*, *Str. F.* vi. p. 462; *Legge*, *B. Ceylon* p. 862. *Helodromas***

ochropus, *List.*, *Br. B. Brit. Orn. Union.*; *Oates, B. Br. Burm.* ii. p. 400.—The GREEN SAND-PIPER.

In winter plumage the forehead, crown, nape and back of the neck are deep or dusky brown, the feathers streaked with white; a dark streak from the base of the bill to the eye and a white one above it; chin and throat white; back and scapulars olive brown, or brown glossed with greenish, each feather edged with small roundish spots, the spots on the scapulars distinctly margined behind with deep brown; primaries and their coverts and secondaries deep brown, none of them white-shafted; wing coverts dusky brown; *axillaries dusky or dark brown, with narrow oblique white bars*; abdomen, vent and upper and under tail coverts white; tail white, broadly barred with deep brown, the middle feathers having four bars, and those next to them decreasing in number, the outer feathers on each side being pure white with sometimes a dusky subterminal spot on the outer web; legs and feet greenish grey; bill black; irides brown.

*Length.*—9·5 to 10 inches; wing 5·5 to 6; tail 3; bill 1·37; tarsus nearly 1·5.

*Hab.*—Throughout India, Ceylon, Beloochistan, Persia and Afghanistan, frequenting the banks of rivers, edges of lakes and large sheets of water; a winter visitant, seldom seen along the sea coast. Occurs throughout Europe, Asia and Africa, extending to Burmah and the Malay Peninsula.

#### Gen. *Totanus*.—*Bech.*

Bill slightly curved at tip, groove half the length of the bill; tarsi with narrow scales in front, otherwise as in *Actitis*.

**1302. *Totanus glareola* (Gm.),** *Salvad., Ucc. Born.* p. 327; *Hume, Str. F.* iii. p. 183; *Dresser, B. Eur.* viii. p. 143, pl.; *Legge, B. Ceylon* p. 857. *Tringa glareola*, Gm., *Syst. Nat.* i. p. 677. *Actitis glareola*, *Ferd., B. Ind.* iii. p. 697; *Blyth, B. Burm.* p. 155. *Rhyacophila glareola*, *Hume and Dav., Str. F.* vi. p. 462; *Hume, Str. F.* vii. p. 488; viii. p. 113; *Oates, Str. F.* x. p. 240.—The WOOD SAND-PIPER.

*Winter Plumage.*—Crown of the head, forehead, nape and back of the neck dusky brown, the feathers with narrow white or greyish edgings; a dark streak from the base of the bill to the eye, and a white one above it; chin and throat rather sullied; foreneck and breast the same, but suffused with ashy brown, darker on the sides, where the feathers are indistinctly dark shafted; back, scapulars and tertials dusky, the feathers edged with white or greyish white spots; *axillaries* white, with transverse oblique dusky brown spots; primaries, secondaries and their coverts dusky brown, the shaft of the first quill and the tips of the later inner ones white; the greater wing coverts margined and tipped with white; rump, upper and lower tail coverts and abdomen white; tail with the central feathers longest and barred with black and white alternately,

the barrings oblique, the rest less broadly barred and decreasing on the outer ones to dusky markings on the outer webs only; legs pale olive green; irides deep brown.

*Length*.—8·5 to 9 inches; wing 5; tail 2; bill at front 1·2; tarsus 1·5.

*Hab*.—Common nearly throughout India and Ceylon, also in Beloochistan, Persian Gulf, and Afghanistan during winter.

**1303. *Totanus canescens* (Gmel.), Dresser, *B. Eur.* viii. p. 173, pl.; Hume, *Str. F.* i. p. 247; iii. p. 183; Armstrong, *Str. F.* iv. p. 344; Oates, *B. Br. Burm.* ii. p. 402. *Scolopax totanus*, Linn., *Syst. Nat.* i. p. 245. *Scolopax canescens*, Gmel., *Syst. Nat.* i. p. 668. *Totanus glottis* (Linn.), *Ferd.*, *B. Ind.* iii. p. 700; Blyth, *B. Burm.* p. 155; Legge, *B. Ceylon*, p. 840; Murray, *Vert. Zool. Sind*, p. 255.—The GREEN SHANKS.**

In winter the forehead, except a few brown streaks in the middle, sides of the face, chin, throat, neck in front, and entire lower parts, including the under tail coverts, are white, also the lower back, rump and upper tail coverts; a dark streak from the base of the bill to the eye; crown of the head, sides of the neck and nape dusky, the feathers streaked whitish or greyish white; sides of the breast white, mottled with ashy brown; upper back and scapulars brown, the feathers edged whitish; scapulars distinctly dark shafted, also the tertiaries; primaries dark brown, the shaft of the first quill white, and the edges and tips of the inner ones also white; secondaries ashy brown, tipped white; tail white with narrow transverse dark bars, the outer ones nearly pure white; bill slightly curved upwards, dusky greenish, 2·2 in length; irides brown.

*Length*.—14 to 14·5 inches; wing 2·2; tail 3·75; tarsus 2·75.

*Hab*.—India generally during winter, also Burmah and Ceylon, along the sea coast, lakes, rivers, &c. Widely distributed. Recorded from N.E. Europe, Red Sea, Africa and Australia. Like all the *Totaninae* it is excellent eating.

**1304. *Totanus stagnatilis*, Bechst., *Orn. Taschenb.* ii. p. 292; *Ferd.*, *B. Ind.* iii. p. 701; Dresser, *B. Eur.* viii. p. 151, pl.; Blyth, *B. Burm.* p. 155; Hume, *Str. F.* viii. p. 113; Murray, *Vert. Zool. Sind*, p. 255; Legge, *B. Ceylon* p. 844; Oates, *B. Br. Burm.* ii. p. 403.—The LITTLE GREEN SHANK.**

In winter the plumage of the upper parts are the same as *Totanus glottis*; shoulder of the wing black; entire under parts white; sides of the breast not so much spotted or streaked with dark brown; bill not curved upwards as in *glottis*; tail banded white and dusky.



*Length*.—10·5 inches; wing 5·25; tail 2; bill 1·62; tarsus 2·25; legs pale green; irides brown.

*Hab*.—The same as *glottis* and usually associated with it.

**1305. *Totanus calidris* (Linn.),** *Ferdon, B. Ind.* ii. p. 702; *Hume, Str. F.* i. p. 248; ii. p. 299; *Blyth, B. Burm.* p. 155; *Dresser, B. Eur.* viii. p. 157, pl.; *Hume, Str. F.* viii. p. 113; *Legge, B. Ceylon* p. 852; *Murray, Vert. Zool. Sind,* p. 256; *Oates, B. Br. Burm.* ii. p. 404. *Scolopax calidris, Linn., Syst. Nat.* i. p. 245.—The RED SHANK.

*Winter Plumage*.—Forehead, crown, nape, back of the neck, upper back and scapulars cinereous or glossy olive brown, the feathers on the back and scapulars dark shafted; supercilium and orbital ring white; chin and throat white; sides of the face greyish white, with narrow brown streaks; neck in front and breast greyish white, with dusky or greyish brown linear markings; primaries dusky, their inner webs white; the first quill white shafted, and some of the inner ones white tipped; secondaries white; tertials like the back; wing coverts olive brown, the greater ones tipped with white; axillaries, under wing coverts, abdomen, vent and under tail coverts white; lower back white; upper tail coverts and tail white, barred with dusky.

*Length*.—11·5 inches; tail 2·7; wing 6·45; bill at front 1·7 to 1·9, reddish at the base, its terminal half dark brown; tarsus 2; irides brown; legs red.

*Hab*.—India generally and Ceylon during winter. Sind, Persia, Beloochistan and Afghanistan, Southern and Western India, N.-W. Provinces, Oudh, and Burmah generally. Breeds in the North of Europe.

**1303. *Totanus fuscus* (Linn.),** *Ferd., B. Ind.* iii. p. 702, No. 896; *Hume, Str. F.* i. p. 248; *Dresser, B. Eur.* viii. p. 165, pl.; *Cockburn, Str. F.* iv. p. 509; *Hume, Str. F.* viii. p. 113; *Legge, B. Ceylon* p. 848; *Murray, Vert. Zool. Sind,* pp. 255, 256.—The SPOTTED RED SHANK.

In winter the forehead, crown, nape, back of neck and upper back ashy grey, finely streaked with dusky; supercilium white, and a dusky streak from the base of the bill to the eye; chin and throat white, sides of face white with some fine dusky streaks; breast and under parts mottled and barred with dingy ash brown and dull fulvous, or greyish white; upper back, scapulars, shoulder of wing and lesser coverts a glossy olive brown, darker on the upper back and tertaries, all the feathers spotted on the edges with white; the wing coverts also tipped with white; lower back white; rump barred with undulating lines of ashy brown and white; tail also barred the same; primaries dark brown, the inner ones pale brown, tipped and mottled with white; secondaries barred white and pale brown; legs deep orange red; bill blackish, orange at the base beneath.

*Length*.—13 inches; wing 6·75; tail 2·5; tarsus 2·8; bill 2·4.

*Hab.*—Throughout India during winter, also the Province of Burmah and Ceylon; usually solitary or in very small parties. It is a sea shore bird, but is also found on the edges of rivers, lakes, mud banks, &c. It is said to swim well, and also to dive when in danger.

**1307. *Totanus Haughtoni*.** *Str. F.* iv. p. 344; *Hume and Dav.*, *Str. F.* vi. p. 463; *Harting, Ibis*, 1883, p. 133, pl.; *Oates, B. Br. Burm.* ii. p. 466. *Pseudototanus Haughtoni*, *Hume, Str. F.* vii. p. 113; *Hume and Marsh., Game Birds* iii. p. 404 pl.; *Oates, Str. F.* x. p. 241.—ARMSTRONG'S YELLOW SHANK.

In winter plumage, resembles generally *Totanus canescens*, but has a much broader and more massive bill, a much stronger tarsus (male 1·85; female 1·65), and the webs between the three anterior toes very much more developed. It differs from *T. canescens* in its smaller size, more robust bill, with the lateral groove slightly more prolonged in proportion to the length of the bill, and in having a palmation on both sides of the middle toe instead of on one side only; the tail does not extend beyond the end of the closed primaries. (*Hume and Harting.*)

*Hab.*—Sea coast near Elephant Point and at Amherst in Tenasserim. One was seen in the Calcutta market.

**1308. *Totanus dubius*.** *Murray, Vert. Zool. Sind*, p. 256.—THE ALLIED YELLOW SHANK.

*Female.*—Frontal zone greyish white, the feathers with mesial narrow brown streaks; crown of the head cinereous, the feathers edged with greyish white; an indistinct dusky spot between the base of the bill and the eye, and a white supercilium; chin and throat white; neck in front and on the sides greyish white, the feathers with narrow mesial dusky streaks; back of the neck ashy grey, also with mesial narrow dusky streaks; breast greyish white with dusky spots, which become linear lower down and on the sides and flanks, forming interrupted lines; abdomen and under tail coverts white; upper back, scapulars and tertials ashy brown, the feathers dark shafted; the tertials reach beyond the fourth quill, and are edged and tipped with fulvous white; *primaries dark brown, nearly black, paler on their inner webs, and all white shafted, except at their tips*; secondaries ashy grey, white-shafted and margined and tipped with white; greater, median and lesser coverts ashy grey, the feathers dark-shafted and edged and tipped with white, more broadly on the median and lesser wing coverts; first two rows of feathers on the shoulder earthy brown, edged rufescent; axillaries and thigh coverts white; lower back and rump dusky brown, the feathers edged and tipped with white; upper tail coverts the same, but the brown very much paler; tail pale earthy brown, the feathers with distinct pale margins and tips, the central feathers very slightly darker; tarsi short, 1·37 inches; toes slender, fringed on the sides and webbed

about  $\frac{1}{2}$  inch; mid-toe and claw 1·12; tail from vent 2·62; bill at front 1·62; upper mandible slightly the longer and bent over at the tip; wing 7·12, 1st quill longest; irides dark brown.

*Length*.—About 11·5 inches (mounted specimen); legs and feet greenish yellow. This is either a new species or an aberrant form of *Totanus*. It is quite unlike any of the other species, except *Totanus Haughtoni*, with the figure of which in the April number of the *Ibis*, 1883, pl. iv., it agrees in a few characters. The markings of the breast and upper parts agree very well, but the lower back, rump and upper tail coverts are not white as in that species or form. These are dusky with whitish edges and tips. Again in the webbing of the toes, this Kurrachee specimen differs from *T. Haughtoni* in having only one-eighth inch of a web, the fringe however is quite apparent. The palatal recurved horny papillæ referred to by Mr. Hume are also present.

In measurements however there is a wide difference. Mr. Hume gives:—

	Length.	Expanse.	Wing.	Tail.	Tarsus.	Bill at gape.	Bill at front.
<i>Male</i> .....	13·2	22·25	7·3	3·0	1·85	2·5	2·1
<i>Female</i> .....	12·9	22·3	7·0	3·0	1·65	2·2	1·92

The Kurrachee specimen is a female and measures—

11·5	.....	7·12	2·6	2·37	1·75	1·62
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These measurements, it will be seen, will not fit any of the other species of the genus.

*Hab*.—Kurrachee (Sind) in the harbour during winter. The single specimen was obtained in November 1882.

### Gen. **Terekia**.—*Bonap.*

Bill recurved, long, slender; tarsi short; toes narrowly webbed; hind toe less than half the size of the outer one.

**1309. *Terekia cinerea***, *Guldenst.*, *N. Comm. Soc. Imp. Petrop.* xix. p. 473, t. xix; *Jerd.*, *B. Ind.* iii. p. 682, No. 876; *Dresser*, *B. Eur.* viii. p. 195, pl.; *Hume*, *Str. F.* i. p. 237; ii. p. 296; *Armstrong*, *Str. F.* iv. p. 341; *Hume and Dav.*, *Str. F.* vi. p. 460; *Legge*, *B. Ceylon* p. 836; *Murray*, *Vert. Zool.*, *Sind*, p. 246.—The TEREK SAND-PIPER OR PIGMY CURLEW.

Forehead, chin, throat, sides of the head and neck in front greyish white with ashy striæ; back, scapulars, tertials, rump and upper tail coverts ashy brown, the feathers with dark shafts; feathers of the median wing coverts narrowly tipped with white; primaries dark brown, the 1st quill with a white shaft; secondaries dusky, broadly terminated with white; shoulder and edge of the wing dark brown; tail concolorous with the back, the tips bordered with white; sides of the breast ashy grey, the feathers mesially darker; lower breast, abdomen, vent and under tail coverts white. In an advanced stage of plumage—March—the entire upper parts are darker, the scapulars are

terminated with black, the chin and throat become pale ashy grey, and there is a distinct fulvous orbital ring, the forehead and face become fulvescent, and the inner primaries tipped with white.

*Length*.—10 inches; wing 5 to 5·2; bill at front 1·9 to 2, orange at the base, the rest dusky or dark brown; tail 2 to 2·5; legs and feet pale orange; irides brown.

*Hab*.—Sind, the Mekran Coast, Kutch, Kattiawar, N. Guzerat, Northern and Southern India, Burmah and Ceylon generally, affecting the sea coast, creeks and channels during winter, found also in N.-E. Europe and New South Wales. According to Jerdon it breeds in Northern Asia, and is extensively distributed over Europe, Asia and Australia.

### Sub-Family, LIMOSINÆ.—GODWITS.

Bill much lengthened, curved or straight from the base, or turned upwards; tail short and even; toes long, united at the base.

### Gen. *Pseudoscolopax*.

Bill much lengthened, soft at the tip, straight or slightly turned upwards, mostly of large size; a distinct web between the toes; lower part of tibia bare; scapulars long; tail moderate.

**1310. *Pseudoscolopax semipalmatus* (Ferd.), Swinh., P. Z. S.** 1863, p. 313; 1871, p. 407; *David et Oust. Ois Chine*, p. 474, pl. 121; *Hume, Str. F.* viii. p. 112; *Hume and Marsh., Game Birds* iii. p. 395. pl.; *Oates, Str. F.* x. p. 239; *id., B. Br. Burm.* ii. p. 408. *Macro-ramphus semipalmatus* (Ferd.), *Blyth, J. A. S. B.* xvii. p. 252; *Ferd., B. Ind.* iii. p. 679, No. 874; *Hume, Str. F.* vii. p. 484.—The SNIPE-BILLED GODWIT.

Forehead, crown, nape, hind neck, sides of the neck, back, scapulars and tertiaries brown, each feather margined with greyish white; lores brown; supercilium white; sides of the head, chin, throat, foreneck and breast white, densely marked with short brown streaks; upper wing coverts dark brown, broadly edged with white; primary coverts brown; primaries brown, the tips darker, the shafts white and the outer webs narrowly margined with white; secondaries brown, broadly margined with white and irregularly barred with the same; rump, upper tail coverts and tail white, broadly barred with brown; abdomen and vent white; under tail coverts white, marked with V-shaped brown marks; sides of the body white, irregularly barred with brown; under wing coverts white; axillaries white, with a few irregular short brown bars.

In Summer, according to Messrs. David and Oustalet, the upper plumage is bright rufous with brown streaks on the nape, lores and hind neck, and with

large brown spots on the dorsal feathers; lower plumage more uniform rufous, with a little white on the edges of the feathers of the abdomen and some irregular brown streaks on the flanks and under tail coverts; wing coverts, secondaries and tertiaries greyish brown bordered with white; primaries brown with the shafts white; tail brown, transversely banded with white.

Bill black, turning to plumbeous at base; irides dark brown; legs and toes dark plumbeous.

*Length*.—13·5 inches; tail 2·5 to 2·9; wing 6·8 to 7; tarsus 2·05; bill from gape 2·9 to 3·25.

*Hab.*—Burmah, where it was procured at Rangoon and in Pegu.

### Gen. *Limosa*, *Briss.*

Bill sub-curved at the tip, inclined upwards; 1st quill longest; outer toe united to the middle as far as the first joint; tibia bare for more than two-thirds its length; tarsi long; hind toe half the length of the outermost.

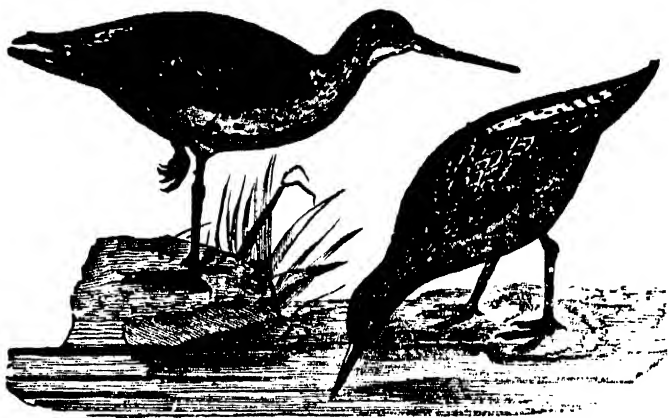
**1311. *Limosa ægocephala* (*Jinn.*), *Jerd.*, *B. Ind.* ii. p. 681; *Dresser*, *B. Eur.* viii. p. 211; *Blyth*, *B. Burm.* p. 155; *Hume*, *Str. F.* vii. p. 356; *Legge*, *B. Ceylon*, p. 832; *Hume and Marsh.*, *Game Birds* iii. p. 409, pl.; *Oates*, *Str. F.* x. p. 239; *Murray*, *Vert. Zool. Sind*, p. 243; *Oates*, *B. Br. Burm.* ii. p. 409.—The BLACK-TAILED GODWIT.**

In winter plumage, the entire head, back of the neck, back, scapulars, breast pale earthy grey, darker on the scapulars and back, where each feather is dark shafted; superciliary stripe, chin, throat, also the abdomen and under tail coverts white; rump white, the feathers of the upper tail coverts black for their terminal half; tail white at the base, the terminal two-thirds tipped black, the outer feathers for their terminal third only, and all more or less narrowly tipped white; primaries and their coverts dusky brown, the inner primaries basally white, and all white on their inner webs; secondaries dusky terminally, white basally, and some of the tertiaries with their outer webs white; greater wing coverts broadly edged with white, also some of the hinder primary coverts; shoulder of wing dusky brown, also the lower back; neck in front and flanks greyish white.

*Length*.—16 to 18 inches; wing 7·75 to 8·75; tail 3·12 to 3·5; bill at front 3·7 to 4·5, of a dull reddish colour at base and dusky at the tip; legs dusky greenish; irides dark brown.

*Hab.*—Nearly throughout India and Ceylon during winter. Rare in Southern India, the Concan and the Deccan. Common in Kutch, Kattiawar and Rajputana, also in Beloochistan, Persia and Afghanistan. In Sind this

species is numerous, everywhere behind the tall grass, along the edges of the Munchur Lake, in the shallow pools, wading up to their body, and often swimming across deeper spots if beyond its standing depth. It is held in much esteem for the table, being equal to Jack and the Common Snipe, especially those which have been feeding in rice fields.



*Limosa lapponica.*

**1312. *Limosa lapponica* (Linn.), Bodd., P. E. 900; Gould, B. Eur. pl. 306; Hume, Str. F. i. p. 236; Murray, Hdbk., Zool., &c., Sind, p. 216; id., Vert. Zool. Sind, p. 244; Hume and Marsh., Game B. p. 47, pl.—THE BAR-TAILED GODWIT.**

“In the winter plumage there is a broad indistinct white superciliary band, and the feathers immediately below the eye are also white; the chin and throat are pure white; forehead, the whole top, back and sides of the head, and the neck all round brownish white, closely streaked with darker brown, the streaks very minute on the sides of the head, somewhat larger on the front of the neck, and darker and stronger on the head and back of the neck, where but little of the white remains visible; upper back pale earthy brown, each feather with a narrow dark brown central shaft-stripe and mostly margined somewhat paler; breast pale greyish brown, more or less obscured by the albescent tippings to the feathers, and some of the feathers with inconspicuous darker shafts; the feathers of the central portion of the breast, if raised, will be found to be not merely tipped whitish, but to be also obscurely barred with white; abdomen, vent, and lower tail coverts pure white, as are also the axillaries and wing lining; the rump is white with a few cuneiform or heart-shaped blackish brown spots; upper tail coverts white, with narrow irregular arrow-head bars; tail feathers grey brown with

dark shafts, tipped white and mottled with white on the inner webs of the exterior ones, in some with traces of darker transverse bars; the primaries and their greater coverts black; the shafts of the first two or three white, subsequent ones brownish white; scapulars and tertiaries pale brown, darker shafted, margined paler, and many of them more or less tinged with ashy; the lesser and median coverts like the scapulars, but margined whitish; secondaries brown, paler on their inner webs, and margined on both webs and on the tips with white, as indeed are also, so far as the tips are concerned, the later primaries, though less conspicuously so; the greater secondary coverts are more ashy brown, narrowly margined with white. In one specimen, which appears to be further advanced, the lateral tail feathers are distinctly barred blackish brown and white; the cuneiform barrings on the rump and upper tail coverts are more marked; the axillaries are all strongly barred; the feathers of the sides and flanks, and also the lower tail coverts, exhibit numerous arrow-head bars; and one or two rufous or chestnut feathers with black bars have begun to show themselves on the breast."

The summer plumage is thus described by Temminck:—

"*Male*.—Upper part of the head and occiput blackish brown, mixed with streaks of reddish yellow; a band of the latter colour over the eyes; lores blackish brown; cheeks and throat of a yellowish red; all the lower parts of the body including the under tail coverts pale yellowish red; upper part of the back and scapulars blackish brown, marbled with reddish yellow and whitish grey; lower part of the back and rump white, marked with longitudinal yellowish red spots; the tail marked with brown and white bars, those of the latter tint irregularly distributed, and disposed more or less longitudinally; quills black at their tips, the remaining part towards the bases blackish brown, with their inner webs whitish grey, marbled with pale brown; the secondaries grey, with the shafts and margins white.

"*Female*.—The head and lores as in the male; the throat white, marked with reddish grey; cheeks and neck very light reddish, with numerous brown streaks, which become broader, and form small transverse brown and white bars on the sides of the breast; the latter and the belly marbled with white and very pale reddish; the abdominal part white; the lower tail coverts reddish white, with light brown bars.

"*Length of Male*.—14·5 to 14·8 inches; expanse 27 to 27·75; tail from vent 2·7 to 3·3; wing 7·8 to 8·4; tarsus 2; bill at front 2·8 to 3·1; weight 8 oz.

"*Length of Female*.—15·75 inches; expanse 28; tarsus 2; tail 3; wing 8·4; bill at front 3·65; weight 9 oz.

"The legs and feet are black, in some dusky plumbeous; irides brown; bill pinkish for about the basal half, black or dusky on the terminal half."—(*Hume, Str. F.*, vol. i. p. 236.)

Affects the same situations as the last, but is less restricted in its range, being found in Sind, Beloochistan, Mekran Coast and the Persian Gulf.

### Sub-Family, NUMENINÆ.

Bill very long, slender, arcuate and compressed, with the tip hard and rather obtuse.

#### Gen. *Numenius*.—*Linn.*

Characters same as those of the Sub-Family; bill curved from the base; upper mandible slightly the longer; tarsi narrowly scutate transversely; hind toe slender with a rudimentary nail.

**1313. *Numenius phæopus* (*Linn.*),** *Jerd.*, *B. Ind.* iii. p. 684; *Dresser, B. Eur.* viii. p. 227, pl.; *Hume, Str. F.* ii. p. 297; iii. p. 182; *Blyth, B. Burm.* p. 155; *Hume, Str. F.* viii. p. 112; *Legge, Birds Ceylon*, p. 910; *Oates, Str. F.* x. p. 240; *Murray, Vert. Zool. Sind.*, p. 247; *Oates, B. Br. Burm.* ii. p. 411. *Scolopax phæopus*, *Linn., Syst. Nat.* p. 243.—  
The WHIMBREL.

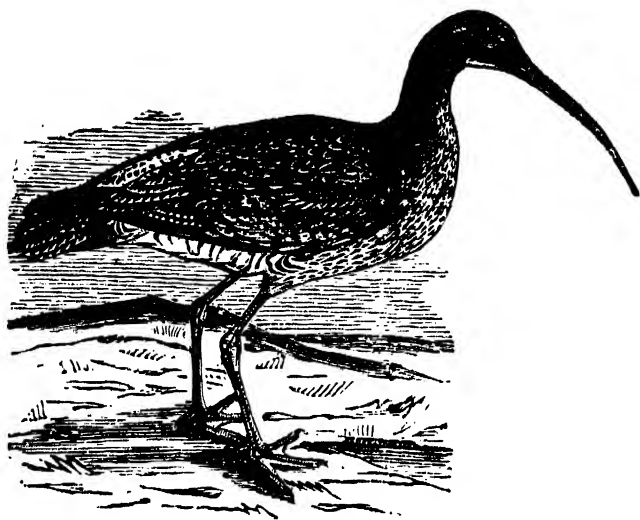
Forehead and crown dusky brown with a mesial longitudinal streak; lores dark brown; superciliary stripe white, extending from the upper side of the upper mandible; orbital feathers white; chin and throat white; neck in front and behind, and breast, ochreous white, the feathers with a dark central longitudinal streak; flanks, axillaries and under wing coverts white, barred with pale brown, as also are the rump and upper tail coverts; tail brown, brownish white or grey brown, with 6–7 bars of dark brown; lower back white; upper back, scapulars and wing coverts dusky or deep brown, the feathers edged pale white or dirty fulvous; primaries dusky or dark brown, their inner webs as well as both webs of the secondaries with white bars, not reaching the shaft.

*Hab.*—Throughout most parts of India, Burmah and Ceylon; also Europe, N. Africa, Egypt and Abyssinia.

Affects the same situations as the Curlew, in small flocks. In the Kurrachee harbour it is oftener seen than the Curlew, and is more shy and difficult to approach, but unlike the Curlew it is often seen on open barren tracts, or sandy flats, far inland, in flocks of 3, 4 or half-a-dozen. It is common all along the sea coast, mud banks and sandy islands of estuaries of rivers, or of the sea, and like the Curlew is a fine bird for the table; Jerdon says it is



perhaps better than the Curlew, and has been called the "Woodcock" of Bengal.



*Numenius arquatus*. The Curlew.

**1314. *Numenius arquatus* (Linn.),** *Ferd.*, *B. Ind.* iii. p. 683, No. 877; *Dresser*, *B. Eur.* viii. p. 243, pl.; *Hume*, *Str. F.* iii. p. 182; *Murray*, *Vert. Zool.*, *Sind.* p. 247; *Oates*, *B. Br. Burm.* ii. p. 412. *Scolopax arquata*, *Linn.*, *Syst. Nat.* i, p. 242. *Numenius lineatus*, *Cuv.*, *Regn. Anim.* i, p. 521; *Blyth*, *B. Burm.* i, p. 155; *Legge*, *B. Ceylon* p. 906.—The CURLEW.

Head, neck behind and in front, also the breast, rufescent ashy, or rufescent grey brown, the feathers with dark mesial longitudinal shaft-streaks; upper back and scapulars varying from dusky to dark brown, the feathers broadly edged fulvous or pale rufous; upper abdomen white, the feathers with dusky shaft-streaks; lower abdomen, vent and under tail coverts pure white; lower back white; rump and upper tail coverts also white, with dark shafts; tail fulvous white with transverse brown bars; chin and throat white, also a small space above the eye in some specimens; first five primaries and edge of wing dark brown, their inner webs mottled with white; secondaries dusky brown, with transverse white bars on both webs half across only, the dark markings forming a rude saw, the edges and tips of the feathers white.

*Length*.—21 to 26 inches; wing 12 to 12·5; tail 4·5; bill at front 5 to 7·25; irides dark brown; legs and feet bluish grey.

*Hab.*—Throughout most parts of Europe, India, Burmah, Ceylon, N. Africa, Egypt, Abyssinia and Palestine. Common along the sea coast and back

waters in great numbers during winter; also along the banks of the Indus and Punjab rivers, and on all large inland sheets of water.

Gen. **Ibidorhynchus**.—*Vigors*.

Bill long, slender, well curved, scarcely dilated at tip, upper mandible grooved, tomixæ inflexed and denticulated; nostrils wide, linear, basal; wings long, 1st quill longest; tail short, of 12 feathers; tarsi short, bare; hind toe wanting.

**1315. Ibidorhynchus Struthersii** (*Vigors*), *Gould, Cent. Him. B.* pl. 19.; *Hodgs., J. A. S. B.* iv. p. 459; *Jerd., B. Ind.* iii. p. 685, No. 879; *Hume, Str. F.* iii. p. 257. *Clorhynchus strophiatius*, *Hodgs. J. A. S. B.* iv. p. 761.—The RED-BILLED CURLEW.

Whole head as far as the eyes black, the feathers of the forehead edged with greyish white; rest of the upper plumage, including the nape, wings and tail bluish ashy; winglet and primaries slaty blue; a bar of white across the wings; upper tail coverts nearly ashy brown; tail with the feathers barred with dusky black, all except the two central feathers largely tipped with black; outer web of outermost feather white; chin and throat black; neck ashy; a gorget of black on the breast; under surface of body, under wing and tail coverts white.

Bill deep crimson; irides red; legs blood red. (*Jerd.*)

*Length*.—16·5 inches; wing 9·25; tail 4·5; tarsus 2·2; bill 3·75.

*Hab.*—The Himalayas, on the banks of sandy streams in Nepaul and in Sikkim on the Great Runjeet; also in Ladak.

**Sub-Family RECURVIROSTRINÆ.**—*Bp.*

Nostrils narrow, membranous; tail short and rounded; tarsi long, covered with reticulated scales; bill long and slender, recurved in one genus.

Gen **Recurvirostra**.—*Linn.*

Bill long, thin, the keel flattened, the tips turned upwards; toes united by webs; hind toe short.

**1316. Recurvirostra avocetta** (*Linn.*), *Bodd., P. E.* 353; *Gould, B. Eur.* pl. 289; *Jerd., B. Ind.* iii. p. 248; *Murray, Hdbk., Zool., &c., Sind,* p. 222; *id., Vert. Zool. Sind,* p. 258.—The AVOCET, SCOOPER or CROOKED-BILL.

Forehead in some specimens faintly white, otherwise black; crown, lores, nape and back of the neck black; scapulars, lesser wing coverts and upper tertials black; primaries black, some of the inner ones with their inner webs white; secondaries and some of the tertials white; chin, throat, neck in front, lower neck behind, lower back, rump, upper tail coverts and entire under surface white.

*Length*.—17 to 18 inches; bill 3·5, curved upwards, black; wing 8·5; tail 3; tarsus 3·62; irides red brown; legs pale bluish grey.

*Hab*.—Throughout India during winter; S.-E. Europe, Lower Egypt, Senegal and Persia. Common in Sind, in large flocks inland, on almost every large sheet of water, especially on the Munchur Lake and along the edges of tanks, &c. Occasionally affects the sea coast and Kurrachee harbour, but by preference the inland waters. Breeds probably in Persia. In Upper India the Avocet is less common; in Kutch, Jodhpore and N. Guzerat rather rare.

### Gen. *Himantopus*.—*Briss.*

Bill long and straight; toes webbed only at the base; nostrils linear; hind toe wanting.

**1317. *Himantopus candidus*** (*Linn.*), *Bonnat. Tabl. Encyl. et Meth.*, *Orn.* 1, p. 24; *Ferd.*, *B. Ind.* ii. p. 704; *Hume, Ibis*, 1870, p. 146; *Dresser, B. Eur.* vii. p. 587, pl.; *Hume and Dav.*, *Str. F.* vi. p. 464; viii. p. 113; *Legge, B. Ceylon* p. 919. *Himantopus intermedius*, *Hume, Nests and Eggs Ind. B.* p. 589. *Charadrius himantopus*, *Linn.*, *Syst. Nat.* 1, p. 255.—The STILT.

In winter plumage, the forehead, lores, chin, throat, entire lower parts, lower back and rump white; crown of the head dusky or dark ash; neck behind ashy grey, the feathers tipped with white; upper back and scapulars brown; the feathers with pale tippings; primaries dark brown, the inner ones tipped white; secondaries also with white tips; central tail feathers very pale grey, the rest white. In the breeding plumage the primaries, secondaries, scapulars, tertiaries and upper back are rich glossy black, with greenish reflections; the crown of the head dusky or dark brown, spreading over and below the eyes.

*Length*.—15 to 16 inches; wing 8·5 to 9; tail 3; bill black, reddish at the base, 2·75 inches in length; tarsi 4·5 to 5·5; irides blood red; legs and feet lake red.

*Hab*.—India generally, also Burmah and Ceylon, in large flocks during winter, frequenting margins of lakes and ponds, also banks of rivers. Breeds in Sind during June in the Narra Districts. Eggs 2–4 in number, of a pale blue colour, spotted and speckled with dark brown and olive green. Incubation 18 to 20 days. The young are said to leave the nest immediately they are hatched, and hide themselves among very scanty cover. Found also in Beloochistan, Afghanistan, Persia, and probably Mesopotamia.

### Family, PARRIDÆ.

Bill long, one and a half or twice the length of the head; nostrils lateral; wing spurred or with a tubercle; tarsi long; toes long with long claws.

Gen. **Metopodius**.—*Wagl.*

Bill moderate, stout, compressed, thick at the base, the culmen curved at the tip; forehead with a carbuncle; tail short; nostrils small, ovate; 2nd and 3rd quills of wing longest; feet very large; toes slender and long; claws very long, especially of the hind toe.

**1318. Metopodius Indicus** (*Lath.*), *Jerd.*, *B. Ind.* iii. p. 708; *Hume, Nests and Eggs Ind. B.* p. 591; *id.*, *Str. F.* iii. p. 183; *Blyth, B. Burm.* p. 157; *Butler, Str. F.* iv. p. 19; *Armstrong, t. c.* p. 348; *Oates, B. Br. Burm.* ii. p. 358. *Parra indica, Lath., Ind. Orn.* ii. p. 765; *Salvad., Ucc. Born.* p. 342; *Oates, Str. F.* vi. p. 165; *Hume and Dav., t. c.* p. 464; *Hume, Str. F.* viii. p. 113; *Oates, Str. F.* x. p. 241.—The BRONZE-WINGED JACANA.

Whole head, neck all round, upper back, and whole lower plumage black glossed with green, the upper back glossed with purplish; lower back, scapulars, tertiaries and wing coverts glossy bronze; rump and upper tail coverts, also the flanks, tail and under tail coverts maroon; vent and thigh coverts brown, tinged with maroon and streaked with white; primaries and secondaries black, the later ones bronze on their outer webs; chin and throat whitish brown; supercilium reaching to the nape white; bill with the basal half of upper mandible and frontal shield livid blue; rest of upper mandible and whole of the lower one green; irides brown; legs and feet slaty colour.

*Length*.—10·5 inches; tail 2; wing 6·2; tarsus 2·6; bill from gape 1·3. Females are slightly larger.

*Hab.*—India generally, also the Indo-Burmese Countries, but not in the drier northern parts as Sind, Punjab, and Rajpootana. Affects jheels marshes, large swamps and weedy tanks. Breeds during the monsoon, making a floating nest in some sequestered part of a jheel or marsh. Eggs 6—7 in number, moderately broad ovals, a good deal pointed towards one end; the ground colour varies from a pale stone colour to a reddish olive brown, highly polished, marked with fine lines of blackish brown.

## Sub-Family, PARRINÆ.

General characters of the Family; feet large; toes and claws very long and thin, to enable the species to walk on marshy or oozy ground and aquatic plants.

Gen. **Hydrophasianus**.—*Wagl.*

1st and 2nd quill of wing equal and longest; primaries with lanceolate appendage to the tips; bill more slender than in *Metopidius*; forehead without a frontal shield; tail long; central feathers much elongated in the breeding season.

**1319. *Hydrophasianus chirurgus* (Scop.), *Ferd.*, *B. Ind.* iii. p. 709; *Hume, Nests and Eggs Ind. B.* p. 592; *id.*, *Str. F.* iii. p. 185; *Salvad., Ucc. Born.* p. 343; *David et Oust. Ois. Chine*, p. 483; *Legge, B. Ceylon*, p. 914; *Oates, B. Br. Burm.* ii. p. 360; *Murray, Vert. Zool., Sind*, p. 259. *Tringa chirurgus*, *Scop.*, *Del. Flor. et. Faun. Insubr.* ii. p. 92. *Parra sinensis* (Gm.), *Syst. Nat.* i, p. 709. *Hydrophasianus sinensis*, *Blyth and Wald.*, *B. Burm.* p. 157.—THE PHEASANT-TAILED JACANA.**

In winter plumage, the forehead, crown, a streak from the base of the bill through the eye, extending down each side of the neck on to the breast and forming a pectoral gorget; also the back of the neck dusky or pale hair brown, the feathers on the forehead and crown tipped with white; supercilium white, and a pale golden yellow line from behind the eye; back, scapulars, tertials and lesser wing coverts glossy olive, or pale hair brown; the lower back, rump, upper tail coverts and central tail feathers slightly darker, and the lesser wing coverts mottled and barred transversely with white. Shoulder of wing spurred. First primary with an appendage, the shaft of 2nd, 3rd and 4th in some specimens hair like at the tip, all dark brown, and, except the first and second, broadly white on their inner and outer webs; greater coverts and secondaries, chin, throat, neck in front, abdomen, vent and under tail coverts white; tail 3·5 to 4 inches. In breeding plumage the forehead, crown, entire face, chin, throat and neck in front white. There is a black patch on the nape; and the neck behind is shining golden yellow, edged on the sides with black; back, scapulars and tertiaries dark olive brown, with purplish reflections; rump and upper tail coverts bronzed dark brown; tail black; breast and entire lower parts dark or deep dusky brown, shoulder of wing spurred; wing coverts white; primaries as in the winter plumage.

*Length*.—18 to 20 inches; irides dark brown; bill plumbeous at the base and tipped greenish, 1·25 in length; tail 10 to 11 inches; wing 8 to 8·5; tarsus 2·12; middle toe and claw 3 inches; hind toe and claw 2 inches.

*Hab.*—Throughout India, Ceylon and British Burmah. Common in Sind on the Munchur and other Lakes, also in the Punjab and N.-W. Provinces. Breeds in the Province from May to September, making a large floating nest. Eggs, pear-shaped, of a beautiful bronze colour.

### Family, RALLIDÆ.

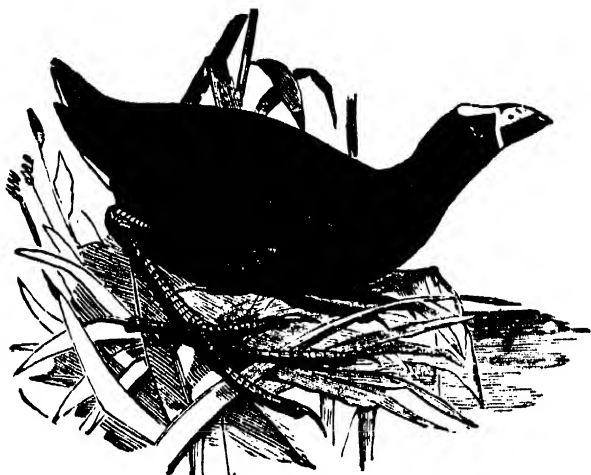
Bill compressed, short, pointed, thick, wedge-shaped; nostrils in a short groove; legs stout; toes long; tarsi moderate; tail short.

### Sub-Family, GALLINULINÆ.—WATER-HENS.

Bill with the keel advancing on the forehead, where there is usually a casque; toes long and slender or bordered by a scoloped web; wings short and rounded; hind toe long.

Gen. **Porphyrio**.—*Briss.*

Bill very thick; casque large; mid-toe as long as tarsi, slender, not fringed with web.



*Porphyrio poliocephalus*. The Purple Coot.

**1320. *Porphyrio poliocephalus* (Lath.), *Jerd.*, *B. Ind.* iii. p. 713; *Blyth*, *B. Burm.* p. 161; *Butler*, *Str. F.* iv. p. 20; *Oates*, *Str. F.* vi. p. 165; *Elliot*, *Str. F.* vii. p. 22; *Legge*, *B. Ceylon* p. 795; *Murray*, *Vert. Zool.*, *Sind*, p. 260; *Oates*, *B. Br. Burm.* ii. p. 351. *Gallinula poliocephala*, *Lath.*, *Ind. Orn. Suppl.* p. lxxviii. *Porphyrio neglectus*, *Scheg. Mus. P. B.*, *Ralli*, p. 53; *Hume*, *Str. F.* i. p. 249; *Hume*, *Nests and Eggs* p. 594; *id.*, *Str. F.* iii. p. 185.—The PURPLE COOT.**

Occiput and nape, lores, and round the eyes greyish, clouded with purple; cheeks, chin and throat the same, but with more of a purple tinge; neck in front and breast pale bluish; lower breast, abdomen, flanks, vent and thigh coverts dark purplish blue; under tail coverts white; back of neck, back, rump, and upper tail coverts purplish blue; scapulars, wing coverts and outer webs of primaries pale greenish blue, the inner webs of primaries, secondaries and tertials dark brown or black; tail black, the feathers on the outer web edged with bluish.

*Length*.—18 inches; wing 10 to 10·2; tail 4·5; bill at gape 1·62; tarsi 3·62; mid-toe 3·62; casque and spot at base of bill cherry red; bill red; irides red; legs crimson.

*Hab.*—Throughout India, Ceylon and British Burmah; also in Persia, Beloochistan and Afghanistan. Common in Sind in suitable localities, but I do

not believe they are anywhere as numerous as on the Munchur Lake, where among the rushes, they are with the Bald Coot simply innumerable.

Breeds in the Province from May to September, making a nest of rushes, &c., in the reedy grass. Eggs prettily marked on a greenish ground with spots, blotches and streaks of a reddish colour, lake red or rich red.

### Gen. **Fulica.**

Bill moderate ; nostrils lateral ; casque small ; wing with a tubercle at the shoulder ; tail short ; toes with lobate membrane.



*Fulica atra.*

**1321. *Fulica atra*, Linn., *Syst. Nat.* 1, p. 257 ; *Jerd., B. Ind.* iii. p. 715 ; *Hume, Str. F.* i. p. 249 ; *id., Nests and Eggs* p. 595 ; *Blyth, B. Burm.* p. 162 ; *Wardlaw-Ramsay, Ibis*, 1887, p. 472 ; *Dresser, B. Eur.* vii. p. 327 ; *Murray, Vert. Zool., Sind*, p. 261 ; *Oates, B. Br. Burm.* ii. p. 352.—The BALD COOT.**

Upper plumage black ; hoary, dark ash, lead colour or dusky brown below ; a spot below the eye, and the outer edge of the wings white ; frontal disc or casque white ; also the bill, which in the breeding season is tinged pale red ; irides blood red ; legs dull green, with a yellow, green, and red garter in the breeding season.

*Length*.—15 to 16 inches ; wing 7·5 to 7·75 ; tail 2 ; bill at gape 1·41.

*Hab.*—Throughout India, Ceylon and British Burmah ; also Europe (central and south), Egypt, Assam, Nepaul, Persia, Beloochistan and Afghanistan. In Sind it is numerous in suitable localities, but on the Munchur Lake, as Mr. Hume says (*Str. F.* vol. i. 249) “they would have to be counted not by thousands, but by hundreds of thousands. \* \* \* You can shoot nothing without knocking over some of these wretched coots.” He also adds “that

in no part of the world has he even seen such incredible multitudes of coot as are met with in Sind; in the Munchur Lake *par excellence*."

Gen. **Podica**.—*Less*.

General characters of *Fulica*; bill rail-like; neck more lengthened; toes lengthened and webbed.

**1322. *Podica personata***, *G. R. Gray, P. Z. S.* 1848, p. 90; *Aves*, pl. 4; *Hume, Str. F.* iii. p. 185; *Blyth, B. Burm.* p. 162; *Hume and Dav., Str. F.* vi. p. 465; *Hume, Str. F.* viii. p. 113; *Oates, Str. F.* x. p. 241; *id., B. Br. Burm.* ii. p. 353—The MASKED FINFOOT.

Forehead, lores, a supercilium extending to the nape, cheeks, anterior part of ear coverts, chin, throat and front of the neck black; this black patch bordered by a white line, terminating on either side at the posterior corner of the eye; crown, nape and upper neck dark ashy; sides of neck olive brown; back, rump, scapulars, upper tail coverts and the whole of the wing brown, tinged with green; sides of the breast and of the body brown; breast and abdomen white, the latter barred with brown; vent and under tail coverts brown, closely barred with whitish, the longer feathers of the coverts almost wholly brown; wing coverts sooty brown; tail plain brown, tipped paler. (*Oates*.)

The female has the chin, throat, and front of the neck white, with a black margin all round, which extends a little over the lores, and has the same outer border and has the black mask of the males. (*Tickell ex Oates*.) Iris hazel brown; tarsus and toes light green; bill orange yellow, paler at the tips; edges of eyelids yellow.

*Length*.—22 inches; tail 5·8; wing 10; tarsus 2·1; bill from gape 2·3.

*Hab*.—Tenasserim. *Oates* says it is an excessively rare bird, of which very few specimens have been procured. Lieut. Lloyd shot a specimen in some part of Karenne. Col. Tickell observed it in Tenasserim, and Mr. Davison procured it at Amherst, Mergui and Bankasoon. It is said to be known to occur in Cachar and Assam.

Gen. **Hypotænidia**.—*Reich*.

Bill moderately long, straight or slightly arched, compressed at the base, cylindrical at the tip; upper mandible grooved for two-thirds of its length; nostrils lateral, linear, and situated in the groove; lower part of tibia naked; tarsi long and robust; toes long and slender, three before and one behind; anterior toes entirely divided; wings short and rounded; 3rd and 4th quills longest.

**1323. *Hypotænidia striata*** (*Linn.*), *Wald., Trans. Zool. Soc.* viii. p. 95; *Hume, Nests and Eggs Ind. B.* p. 605; *Blyth, B. Burm.* p. 161;



*Hume, Str. F.* iii. p. 189; *Hume and Dav., Str. F.* vi. p. 468; *Legge, B. Ceylon*, p. 775; *Hume and Marsh., Game Birds* ii. p. 245, pl.; *Oates, Br. Burm.* ii. p. 339. *Rallus striatus*, *Linn., Syst. Nat.* i. p. 262.—THE BLUE-BREASTED BANDED RAIL.

Top of head, nape and hind neck chestnut; upper plumage, including the wing coverts and tertiaries, blackish brown, each feather broadly edged with olive brown and barred with white; primaries, secondaries and tail dark brown, barred with white; lores, cheeks, ear coverts, sides of the neck, foreneck and breast bluish grey, tinged somewhat with rufescent; sides of the body, lower abdomen, vent, under tail and thigh coverts, also the under wing coverts, dark brown, barred with white; centre of abdomen dull white; bill rosy pink on the basal half; remainder horn colour or yellowish green; irides red; legs and feet dull greenish or olive brown. The young has not the chestnut head and bluish breast.

*Length*.—9·8 to 11·5 inches; wing 4·5 to 5; tail 1·5 to 2·25; tarsus 1·35 to 1·62; bill from gape 1·32 to 1·82.

*Hab.*—Southern India, along the bases of the Neilgherries, the Wynnaad, Malabar Coast, Southern Konkan, in the Rutnagherry districts and Southern Ceylon. It also occurs in Lower Bengal in the deltaic districts, in the neighbourhood of Calcutta too, as well as in Sylhet, Cachar, Khasia Hills, and the Assam Valley to Sadiya. In Arracan it is said to be fairly common, while in Burmah, Oates says, it is found throughout the whole province, Tenasserim included. It breeds in all localities where they occur, from May to October, making a small nest of grass on the ground near water, surrounded by thick vegetation. Eggs, seven in number, of a pinkish stone colour blotched with pale purple. In length they vary from 1·28 to 1·41 inches, and from 0·98 to 1·13 in width.

*Hypotaenidia obscuriora*, *Hume, Str. F.* ii. p. 302; iv. p. 294; *id. and Marsh., Game Birds* 253, pl., is recorded from the Andamans as a separate race, but to my mind it can scarcely stand as a species, and hence it is suppressed.

#### Gen. *Rallus*.—*Linn.*

Bill moderately long, straight or slightly curved at tip; shoulder with a small spur; other characters as in *Hypotaenidia*.

**1324. *Rallus indicus***, *Blyth, J. A. S. B.* xviii. p. 820; *Jerd., B. Ind.* iii. p. 726; *Hume, Str. F.* iii. p. 416; *Blyth, B. Burm.* p. 162; *David et Oust. Ois. Chine* p. 489; *Legge, B. Ceylon* p. 778; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 257, pl.; *Oates, B. Br. Burm.* ii. p. 342.—THE INDIAN WATER RAIL.

Above, including the sides of the neck, scapulars and tertiaries olive brown, sometimes with a ruddy tinge, each feather with a broad black mesial streak;

a dark streak from the lores continued under the eye to the ear coverts; a broad white supercilium from above this to the nape; wing coverts dark olive brown, some of them tipped with whitish, and all broadly edged with ruddy; primaries and secondaries brown, some of the inner ones margined with ruddy; chin and throat plumbeous; cheeks, foreneck, breast and centre of abdomen plumbeous ashy, the feathers more or less fringed with ruddy; sides of the abdomen and of the body, axillaries and vent blackish, barred with white; under tail coverts white, each feather with a large black central patch; under wing coverts black, with white margins. Bill dull red, dusky on the culmen and tip; irides red brown; legs and feet dirty pale green.

*Length*.—10 to 10·5 inches; tail 2·2; wing 5·2; tarsus 1·6; bill from gape 1·6.

*Hab*.—From Bengal to Nepaul. Recorded from Arracan by Blyth. Frequent patches of rush and grass at the edges of swamps and ditches. A migrant to India. According to Jerdon it is a rare bird in Central and Southern India, and has chiefly been found in the cold season.

#### Gen. **Rallina**.—*Reich*.

Base of bill not prolonged over the forehead, feet shorter than in the Rails.

**1325. *Rallina euryzonoides* (Lafresn.), Tweedd., P. Z. S. 1877,** p. 767; *Legge, B. Ceylon*, p. 772; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 237, pl.; *Oates, Str. F.* x. p. 242; *Oates, B. Br. Burm.* ii. p. 340. *Gallinula euryzonoides*, *Lafresn., Rev. Zool.* 1845, p. 368. *Rallus zeylanicus*, *Gm., Syst. Nat.* 1, p. 716. *Porzana ceylonica*, *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 285; *Jerd., B. Ind.* ii. p. 725; *Hume, Str. F.* i. p. 440; iii. p. 188; *Bourdillon in Blyth's B. Burm.* p. 162. *Rallina ceylonica*, *Wald. in Blyth's B. Burm.*, p. 162.—THE BANDED CRAKE.

Whole head, neck all round and breast chestnut; upper plumage, wings and tail rich olive brown with a ruddy tinge on the back, rump, scapulars and tertiaries; quills with white bars on the inner webs; chin and throat whitish; abdomen, vent, under tail coverts, sides of the body and under wing coverts broadly barred with dark brown and white. Bill with the base of the upper mandible and the greater portion of the lower green; remainder of bill dark brown; irides blood red; eyelids grey; legs black. (*Oates*.)

*Length*.—10 inches; tail 2·2; wing 5·5; tarsus 1·75; bill from gape 1·3.

*Hab*.—Thayetmyo in British Burmah, where Oates had a live specimen sent to him by Colonel Horace Browne. In Ceylon it arrives in October in considerable numbers, coming to that island in an exhausted condition. It remains there till February.

It has been found in Sikkim, Bhootan, Nepaul and in Goomsoor in the Ganjam Districts. Mr. Hume got a specimen from the Assamboos Hills, and

Mr. Brooks in Cawnpore. It has also been got near Cuttack and in Mainpuri near Lucknow. About Calcutta, and also near Madras, it has also been obtained, but all these were apparently stragglers during severe winter.

**1326. *Rallina fasciata*, Raffl., *Trans. Linn. Soc.* xiii. p. 328; *Salvad., Ucc. Born.* p. 337; *Wald. in Blyth's B. Burm.* p. 162; *id., Trans. Zool. Soc.* ix. p. 231; *Hume, Str. F.* iii. p. 188; *Hume and Dav., Str. F.* vi. p. 467; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 235, pl.; *Oates, B. Br. Burm.* ii. p. 341.—The MALAY BANDED RAIL.**

Whole head, neck all round and breast deep chestnut, rather paler on the chin and throat; back, rump, upper tail coverts and tail ruddy brown; scapulars and tertiaries ruddy brown, with a few obsolete ferruginous bars near the tips of some of the feathers; lesser wing coverts ruddy brown, with a ferruginous spot in the centre of each feather, the remaining coverts and all the quills brown, with rufous white bars on both webs; abdomen, vent, sides of the body, under wing coverts, axillaries, and under wing coverts broadly barred with black and white, the latter part tinged with ferruginous; legs, feet and bare portion of tibia coral red; bill black, dark horny blue or plumbeous blue; irides dull red, cinnabar red or red brown; orbital skin and gape bright vermilion. (*Davison.*)

*Length.*—10 inches; tail 2·3; wing 5·1; tarsus 1·7; bill from gape 1.

*Hab.*—Tenasserim, about Amherst and Tavoy. Extends down the Malay Peninsula, and in the Islands of Sumatra, Java and Borneo. Mr. Davison found it frequenting rice fields surrounded by low brushwood.

**1327. *Rallina Canningi* (Tytler), *Hume, Str. F.* i. p. 86; ii. p. 500; *Hume and Marsh., Game Birds* ii. p. 241, pl.—The ANDAMANESE BANDED CRAKE.**

Head, neck, breast, wings and tail dark maroon; primaries and secondaries olivaceous brown on the outer webs, but strongly tinged with rufous; inner webs black or blackish brown, with numerous moderately narrow, oblique, transverse rufous white bars, 3 on the 1st primary, 4 on the next, and 5 or 6 on the others; abdomen and flanks, also the sides of the body, black, transversely banded with white; edges of the wing coverts and quills dusky; under tail coverts maroon. Legs and feet olive green; bill delicate pale chrysoprase green; irides red.

*Length.*—13 to 14·5 inches; wing 5·95 to 6·4; tail 3·25 to 3·6; tarsus 2·05 to 2·3; bill at front 1·1 to 1·22.

*Hab.*—The Andamans, to which Island it is confined, as far as present knowledge extends. Hume says it is chiefly a woodland Rail, haunting the neighborhood of streams and pools, bordered by dense forests. According to Capt. Wimberley (*Hume*), it is extremely shy, does not take wing unless

hard pressed, and feeds on insects and fresh-water fish. Breeds in the island during July. Eggs, 6 in number, broad, very regular ovals; in colour varying from pinky white to a rich pinky stone colour, or even warm *café au lait* boldly streaked with maroon red and purple.

**Sub-Family, RALLINÆ.—RAILS.**

Forehead with a nude shield; bill compressed, slender; toes shorter than in the *Gallinules*; shoulder of wing with a tubercle or short spur.

**Gen. Porzana.—Vieill.**

Wings moderate, rounded; tail short; toes long, about the length of the tarsus.

**1328. Porzana Bailloni** (Vieill.), Dresser, *B. Eur.* vii. p. 275, pl.; Legge, *B. Ceylon*, p. 766; Hume and Dav., *Str. F.* vi. p. 467; Scully, *Str. F.* viii. p. 358; Hume and Marsh., *Game Birds* ii. p. 203, pl.; Oates, *B. Br. Burm.* ii. p. 344. Rallus Bailloni, *Nouv. Dict. d'Hist. Nat.* xxviii. p. 548. *Crex pygmæa*, Naum. *Naturg. Vog. Deutschl.* ix. p. 567. *Porzana pygmæa*, Jerd., *B. Ind.* iii. p. 723, No. 910; Murray, *Vert. Zool., Sind*, p. 264. *Zaporna pygmæa*, Hume, *Nests and Eggs Ind. B.* p. 603.—The PIGMY RAIL or BAILLON'S CRAKE,

Head and hind neck wood brown; back, scapulars and wing coverts yellowish brown with an olive tinge, the feathers with numerous irregular, white, black-edged spots; supercilium, cheeks, chin and throat grey; breast and upper abdomen bluish grey; the sides, vent and under tail coverts black, with transverse white bars; primaries dusky brown; outer web of 1st quill yellowish white; secondaries with zigzag white lines bordered with black; tertiaries yellowish brown, with a tinge of olive, spotted or streaked irregularly with white, which have edgings of black; tail dusky brown; bill dark green; irides reddish; legs fleshy brown.

*Length*.—7 to 7·75 inches; wing 3·67; tail 1·75 to 2; bill at front 0·62; tarsus 1·0; mid-toe and claw 1·5.

*Hab.*—Sind, Punjab, N.-W. Provinces and Oudh, also Bengal, Nepaul, Rajputana, Kutch, Guzerat, Concan and Deccan, and generally throughout India and Burmah, also Ceylon. It is also an inhabitant of Beloochistan and Afghanistan, and probably Persia also. In Central and Southern India it is said to be not uncommon.

Breeds during July and August in the plains of Upper India and in the lower ranges of the Himalayas about rice swamps and marshy pools. Eggs, six in number, oval, slightly pointed towards one end; a pale olive stone colour or greenish drab, thickly freckled and mottled with faint dusky clouds and streaks. In length they vary from 1·1 to 1·22 and in width from 0·83 to 0·91 inch.

The habits of this species is not unlike the other Rails, but as a rule it is more shy and retiring, and when disturbed, runs with great speed on the lotus leaves or other aquatic herbage, and conceals itself among the thickest of the coverts, it frequents.

**1329. *Porzana maruetta* (Linn.), *Ferd.*, *B. Ind.* iii. p. 722, No. 906; *Blyth, B. Burm.* p. 161; *Dresser, B. Eur.* vii. p. 267, pl.; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 213, pl.; *Murray, Vert. Zool., Sind*, p. 264. *Rallus porzana*, *Linn., Syst. Nat.* i. p. 262. *Ortygometra maruetta*, *Leach, Syst. Cat. Mamm. H. B. Brit Mus.* p. 34.—The SPOTTED CRAKE.**

Forehead ashy brown; crown and nape dusky, streaked with ferruginous; superciliary streak extending behind the eye ashy grey, spotted with white; hind neck dusky, minutely freckled with black and white. Upper back and scapulars dark brown, almost black, the feathers broadly margined and tipped with ochreous olive, and usually the margins of one or both webs with linear spots and streaks of white; lower back and rump dusky brown, the feathers narrowly barred with white; wing coverts like the back, the outer margin of both webs with two pairs of white black-edged spots; tertiaries dark brown on their outer webs, and with 6—7 narrow, oblique white bars; their inner webs rufescent brown; primaries and secondaries pale hair brown, the outer web of the first quill and bastard primary, also the edge of the wing, white; the margins of the outer webs of the other primaries tinged with pale rufescent; axillaries dark brown with transverse white bars; chin and throat greyish white; breast olive brown, the feathers barred with white; abdomen ashy white; flanks olive brown, barred transversely with black and white; tail rufescent brown, mesially dark brown; vent and under tail coverts rufescent white; bill greenish yellow, orange at the base; irides reddish brown; legs bright yellowish green.

*Length*.—8·8 to 9 inches; wing 4·5 to 4·8; tail 1·82 to 2; bill at front 0·75 to 0·9; tarsus 1·4; mid-toe and claw 1·6.

*Hab.*—Sind, Punjab, N.-W. Provinces and Oudh, the Himalayas, Bengal, Rajputana, Guzerat, Kutch, Concan, Deccan and Mysore; also Arabia, Beloochistan, Persia, Afghanistan, and Eastern Turkestan. Occurs all over Europe and North Africa. Affects the reedy swamps and feeds on aquatic insects, larvæ, snails and grass seeds.

**1330. *Porzana fusca* (Linn.), *Ferd.*, *B. Ind.* iii. p. 724, No. 911; *Blyth, B. Burm.* p. 161; *Legge, B. Ceylon* p. 769; *Hume and Marsh., Game Birds* ii. p. 217; *Oates, B. Br. Burm.* ii. p. 346. *Rallus fuscus*, *Linn., Syst. Nat.* i. p. 262. *Rallina fusca*, *Hume, Nests and Eggs Ind. B.* p. 604; *Hume, Str. F.* viii. p. 113.—The RUDDY CRAKE.**

Forehead as far back as the eyes, the sides of the head and neck, the fore-neck, breast and upper abdomen rich ferruginous; chin and throat whitish;

sides of the body and lower abdomen olivaceous; flanks, vent and under tail coverts dark brown, irregularly and indistinctly barred with white; the whole upper plumage, wings and tail olive brown; under wing coverts brown edged with white. The female has the ferruginous of the lower parts paler and the white of the throat extends lower down; irides crimson; eyelids plumbeous, the edges red; bill greenish brown; legs and toes red; hinder parts of leg fuscous. (*Oates.*)

*Length.*—8·5 inches; tail 1·75; wing 3·8; tarsus 1·4; bill from gape 1·0.

*Hab.*—Southern and Central India, Punjab, N.-W. Provinces, and Rajpootana (rare). Common in Lower and Eastern Bengal, also in British Burmah. Breeds during July and August on the Woolar Lake in Cashmere, also in Burmah, where, according to Oates, it is a permanent resident. It is also recorded from Arracan, Ceylon and the Malay Peninsula.

**1331. *Porzana minuta* (Pall.).** *Naum. Vog. t.* 239; *Gould, B. Eur.* pl. 345; *Hume, Str. F. i.* p. 251; *Murray, Hdbk., Zool., &c., Sind,* p. 224. *Porzana parvus, Scop.*—The LITTLE CRAKE.

Crown of the head deep brown; sides of the head, both above and below the eye, ash or slate colour; chin and throat dull or greyish white, the forepart of the neck pale ash; under parts ashy or grey blue in the males, light rufous buff in females; lower abdomen and vent deep or olive brown, spotted with white; neck behind and shoulder of the wing olive brown; back deep olive brown, the feathers with broad mesial dark stripes, their inner margins pale, with some white linear spots and streaks; primaries and secondaries deep brown with pale edges; lesser wing coverts plain dull olive brown; tail dusky olive brown; under tail coverts slaty grey with spots and bars of white.

*Length.*—7 to 8 inches; bill 0·7; wing 3·8; tail 1·5 to 1·75; irides red; bill and legs yellowish green.

Mr. Hume in *Str. F. i.* p. 251, says:—" *Bailloni* (pygmæa) may always be distinguished at a glance from *minuta* by its smaller size, shorter, and in proportion deeper bill, and by having the back, scapulars and greater wing coverts all more or less profusely variegated with bluish white, whereas in *minuta* the white markings, which are somewhat broader and purer white, are confined as a rule to the centre of the back, though occasionally some of the longer scapulars are also faintly edged with bluish white. In *minuta* the wing varies from 3·75 to 4·1; the bill at front 0·7 to 0·76; in *Bailloni* (pygmæa) the wing varies from about 3·45; to 3·62, and the bill 0·6 to 0·62.

*Hab.*—Sind, Eastern Turkistan and Cashmere. Not known to occur anywhere else in India. It is abundant in all the large inland pieces of water or dhunds.

**1332. *Porzana akool* (Sykes),** *Jerd., B. Ind.* iii. p. 722, No. 908; *Hume, Str. F.* iv. p. 21; *id. and Marsh., Game Birds, Ind.* ii. p. 226.—The BROWN AND ASHY CRAKE.

Above olive brown; the rump ashy brown; wings and tail dusky; wing and lower tail coverts deep brown; chin white; throat, breast, and belly ashy brown; flanks olive brown. Bill greenish; irides red brown; legs and feet livid purple.

*Length.*—11 inches; wing 7; tail 3·5; bill at front 1·75; tarsus 2.

*Hab.*—Central Provinces, in Sumbalpoor and Raipoor; also Guzerat, Chota Nagpoor, Bengal, N.-W. Provinces, Oudh and the Punjab Cis-Sutlej. It also occurs in the south-eastern portions of Rajputana (Bhurtpore), the Sambhar Lake, Ajmere, and Mount Abu. In Upper India, Hume says, it is common in the Duns, Terails and Bhabars that skirt the mountain bases of the Himalayas. It is less aquatic in its habits than any of the other Crakes; being often seen on stony ground in the open, though not very far from water; does not affect swamps so much as it does thin grass along the margins of clear water streams. Breeds from May to August, nesting in bushes, grass, or bulrushes; along the margins of small streams or ditches. Eggs, 6—8 in number, a pale salmon white ground covered with blotches, spots and specks of reddish brown. They average from 1·4 to 1·6 inches in length and 0·99 to 1·15 in width.

Gen. *Gallinula*.—*Briss.*

Bill moderate, curved slightly at the tip; nostrils in a groove, placed about the middle of the upper mandible; bill extending on to the forehead and forming a small shield; shoulder of wing with a tubercle or spur; toes very narrowly edged by membrane.



*Gallinula chloropus*. The Water or Moor Hen.

1333. *Gallinula chloropus* (Linn.), *Jerd.*, *B. Ind.* iii. p. 716, No. 905; *Hume*, *Nests and Eggs Ind. B.* p. 397; *id.*, *Str. F.* i. p. 250; iii.

p. 187; *Blyth, B. Burm.* p. 162; *Dresser, B. Eur.* vii. p. 313, pl.; *Hume and Dav., Str. F.* vi. p. 466; *Legge, B. Ceylon* p. 781; *Murray, Vert. Zool., Sind*, p. 262; *Oates, B. Br. Burm.* ii. p. 347. *Gallinula Burnesi*, *Blyth, J. A. S. B.* xiii. p. 736.—The Moor HEN

Top of head, nape and back of neck dusky olive brown; back, scapulars, tertiaries, wing coverts and upper tail coverts shining olive brown; primaries, secondaries and tail dusky brown, the outer web of the 1st quill white; a pale fulvous brown streak from behind the nostril on each side to the eye, and a patch of the same colour on the side of the head including the ear coverts; under each eye a white spot; chin and throat white; breast dark bluish ashy, the feathers { and with pale or dirty fulvous; lower abdomen white; vent feathers black; under tail coverts white; feathers on the flanks long and lax, those falling on the thighs pale brown with a mesial white streak; bill reddish at base, greenish yellow at tip; irides red; an orange garter above the knee.

*Length.*—12 to 13 inches; wing 6.75; tail 3; bill at gape 1.1. In mature plumage the entire head and neck are dark brown, almost black, and the upper plumage darker olive brown.

*Hab.*—Diffused throughout India and parts of Burmah, Central and South Europe, Africa and Java. Occurs also in Beloochistan, Persia, Afghanistan, Eastern Turkistan, Nepaul and Cashmere, affecting small rivers and marshes. In the dhunds and jheels in Sind, also in the Deccan, Guzerat and Rajputana, it is extremely common, swimming about freely. During the day, on retreating to the edges of the tanks or dhunds, it lives concealed among the reeds and rushes. It is less shy towards evening when it creeps along the margins of the waters among the long reeds in quest of aquatic insects, worms and seeds; breeds from June to August. The nest is a large structure of withered reeds and rushes, placed near the brink of the water; the female lays from 4 to 6 eggs; in shape they are long, oval or ovate pyriform, of a stone colour, with a pinkish tinge, speckled, spotted and blotched with reddish brown or red. It is said that the female never quits its nest without covering her eggs with the leaves of the surrounding herbage. The young are able to swim immediately they are hatched.

**1334. *Gallinula phœnicurâ* (Penn.).** *Ferd., B. Ind.* ii. p. 720, No. 907; *Hume, Nests and Eggs Ind. B.* p. 599; *Murray, Vert. Zool. Sind*, p. 263. *Rallus phœnicurus*, *Pennant in Forst. Zool. Ind.* p. 19, pl. ix. *Erythra phœnicura*, *Wald., Trans. Zool. Soc.* viii. p. 94; *Salvad., Ucc. Born.* p. 340; *Legge, B. Ceylon*, p. 786; *Oates, B. Br. Burm.* ii. p. 348.—The WHITE-BREASTED WATER HEN.

Forehead, lores, entire face, chin, cheeks, throat, neck, breast and abdomen white; crown of the head, nape, neck behind, back, scapulars, wings, flanks and tail black, with greenish reflections; outer web of first quill white; lower



abdomen, vent and under tail coverts deep chestnut; bill yellow with a tinge of green; irides blood red.

*Length*.—12 to 13 inches; wing 6·5; tail 2·5; bill at front 1·5.

*Hab.*—Sind and throughout the Indian Peninsula, Ceylon and Burmah. In Sind not uncommon along the canals and the Indus. Breeds from May to August. Eggs greyish, with a light reddish tinge, spotted and blotched with various shades of red and bluish grey; affects generally the heavy undergrowth along the edges of canals.

#### Gen. **Gallix**.—*Blyth*.

Bill as in *Gallinula*, with the base of the bill extending on to the forehead and forming a fleshy protuberance; toes long; hind toe and claws about half the length of the mid-toe; claws curved.

**1335. Gallix cinereus** (*Gm.*), *Hume, Nests and Eggs Ind. B.* p. 596; *Wald.*, *Trans. Zool. Soc.* ix. p. 229; *Oates, Str. F.* v. p. 165; *Wardlaw-Ramsay, Ibis*, 1877, p. 477; *Legge, B. Ceylon*, p. 791; *Murray, Vert. Zool. Sind*, p. 261; *Oates, B. Br. Burm.* ii. p. 349. *Fulica cinerea*, *Gmel., Syst. Nat.* i. p. 702. *Gallinula cristata*, *Lath., Ind. Orn.* ii. p. 779. *Gallix cristatus*, *Ferd.*, *B. Ind.* iii. p. 716; *Blyth and Wald., B. Burm.* p. 161.—The WATER COCK.

*Male in Breeding Plumage*.—Dull black, the feathers of the back, wing coverts, rump and upper tail coverts more or less edged with light brown; tertials dark brown, edged with pale white; edge of the wing white; quills dusky, the shaft of the 1st quill white; tail blackish brown, the outer feathers edged with pale brown; lower wing coverts dusky with whitish edges; bill greenish yellow, fine red at the base; the crest about one inch long, fleshy red; irides red; legs dull red.

*Length*.—16 to 17 inches; extent 23; wing 8·5; tail 3·5; tarsus 3. (*Ferd.*)

*Female*.—Top of head dull black or dusky brown; back of neck, back, scapulars, wing coverts and tertiaries the same, the feathers edged with fulvous, more broadly on the back and wings; tail the same; sides of the face including a broad supercilium fulvous, in some with a rufescent tinge; chin and throat fulvous white; neck in front, breast and entire under parts brownish fulvous, the feathers with narrow transverse bars; thigh-coverts the same; primaries and secondaries dusky brown; outer web of first quill fulvous.

*Length*.—13 to 14 inches; wing 7; tail 2·5; bill at gape 1·25; tarsus 2·5.

*Hab.*—Sind, Lower Bengal, Tennasserim, South and Central India, Burmah and Malayana. Affects large swamps and marshes, also the vicinity of rivers. On the Aaral, at Sehwan, several may be seen in the early morning, issuing from the thick cover of tamarisk, fringing the banks, and running along the edge of the water.

**ORDER, HERODIONES.**

Bill large, long, stout and strong, pointed and in some slightly curved; tarsi generally long and scutellate; tail short; tibia bare for a considerable space. The Order comprises the Storks, Herons and Ibises.

**Family, CICONIDÆ.—STORKS.**

Bill long and stout, compressed to the tip; nostrils narrow, pierced through the bill and situated near the base of the culmen; tail moderate; front toes united at the base.

**Gen. *Leptoptilos*.—Less.**

Bill very large, high at base, much thickened; keel straight; head and neck more or less naked. Under tail coverts composed of long, lax, decomposed feathers, known as *marabou*.

**1336. *Leptoptilos argala* (Lath.), *Ferd.*, *B. Ind.* iii. p. 730, No. 915; *Blyth and Wald.*, *B. Br. Burm.* p. 158; *Murray, Vert. Zool.*, *Sind*, p. 266; *Oates, B. Br. Burm.* ii. p. 262. *Ardea argala*, *Lath.*, *Ind. Orn.* ii. p. 676. *Leptoptilos dubius*, *Salvad.*, *Ucc. Born.* p. 357; *Hume, Nests and Eggs Ind. B.* p. 605. *Leptoptilus giganteus* (*Forst.*), *Oates, Str. F.* vii. p. 50.—The ADJUTANT.**

*In Breeding Plumage*.—Head, neck and gular pouch bare, except a few short scattered hair-like feathers varying in colour from yellowish red to fleshy red; ruff white; back, lesser and median wing coverts, primaries and secondaries black with a greenish gloss; the greater coverts and tertiaries silvery grey, forming a wing band; under parts white. In non-breeding plumage the white wing band is absent and the black plumage much duller.

Bill pale dirty greenish; irides greyish white.

*Length*.—60 inches; wing 30; tail 11; bill at front 12 inches; tarsus 11; pouch 16 to 18 inches in length.

*Hab.*—Sind and throughout the greater part of India; rare in the South; absent in Malabar, where it is replaced by *L. javanicus*; spread throughout North and N.-E. India to Burmah and the Malayan Peninsula. In the Deccan, also in Guzerat and Bengal, it is of much service as a scavenger. Its food is very various. Lizards and frogs, and insects too; refuse from dung heaps also does not come amiss to it. From the craw of three specimens collected about 80 miles east of Kurrachee, lizards (*Uromastix hardwickii*) were extracted. In each an entire animal in four pieces was found which had evidently not been long swallowed. The pieces were very neatly cut; the head making one, the body in two longitudinal halves, and the tail entire being the fourth piece.

Breeds in inaccessible places in parts of Bengal and Burmah, constructing a large nest of sticks, and laying 2—3 whitish eggs, not unlike those of the Vultures; huge broad ovals, in size from 2·87 to 3·3 in length, and from 2·1 to 2·55 in breadth.

**1337. *Leptoptilus Javanicus* (Horsf.), *Ferd.*, *B. Ind.* iii. p. 732; *Salvad.*, *Ucc. Born.* p. 358; *Blyth*, *B. Burm.* p. 159; *Legge*, *B. Ceylon* p. 113; *Sharpe*, *Ibis*, 1819, p. 72; *Oates*, *Str. F.* x. p. 242; *id.*, *B. Br. Burm.* ii. p. 263. *Ciconia javanica*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 188.—The LESSER ADJUTANT.**

Head and neck covered with a few soft decomposed feathers; crown of head bony and perfectly bare; ruff and lower plumage white; upper plumage, wings and tail dark brown with a slightly greenish gloss. Bill dirty yellowish; top of head dirty green; nude parts and neck tinged with yellow, seasonally red; irides whitish; legs dusky black.

*Length.*—52 to 55 inches; tail 10; wing 25; tarsus 9; bill from gape 10·5.

*Hab.*—Over nearly the whole of India in small numbers, frequenting marshes, paddy fields and edges of lakes and rivers. Common in Southern India and the Malabar Coast; rare in Central India and the Upper Provinces. Occurs in Bengal, Assam, Sylhet, and Burmah, extending from the latter down the Malay Peninsula. Habits same as the last.

#### Gen. *Xenorhynchus*.—*Bp.*

Bill very large, stout and solid, the tip turned up; 2nd and 3rd quills longest.

**1338. *Xenorhynchus asiaticus*, *Lath.*, *Ind. Orn.* ii. p. 670; *Murray*, *Vert. Zool. Sind*, p. 266; *Oates*, *B. Br. Burm.* ii. p. 364. *Ardea Indica*, *Lath.*, *Ind. Orn.* ii. p. 701. *Mycteria australis*, *Shaw*, *Trans. Linn. Soc.* v. p. 34; *Ferd.* *B. Ind.* iii. p. 734. *Mycteria indica*, *Hume*, *Nests and Eggs Ind. B.* p. 607; *id.*, *Str. F.* iii. p. 189. *Xenorhynchus australis*, *Blyth and Wald.*, *B. Burm.* p. 158; *Legge*, *B. Ceylon*, p. 1117; *Oates*, *Str. F.* x. p. 242.—The BLACK-NECKED STORK.**

Head and neck rich dark glossy green, glossed on the hind head with purple; lesser, median and greater coverts and scapulars, also the interscapulars and tail dark brown, mixed with rich bluish green with a golden tinge; rest of plumage white; bill black; legs reddish.

*Length.*—52 to 56 inches; wing 24; tail 9; bill at front 12·5 inches.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan and the greater part of India, extending to Malayana; also Burmah and Ceylon. In Central and North India it is, as in Sind, extremely common along the banks of rivers and on the edges of tanks and marshes.

Breeds nearly all over India in well-watered tracts, where lakes, jheels, swamps and marshes abound, and from September to December. The site for building is generally the higher branches of peepul or seesum trees. Nest very large and composed of twigs and sticks. Eggs, 4 in number, pure white and not unlike those of the last. Size 2·65 to 3·13 × 1·93 to 2·3 inch.

**Gen. Ciconia.**—Linn.

Keel of bill straight; 3rd and 4th quills longest; hind toe elevated.

**1339. Ciconia nigra** (Linn.), *Bodd., Tab. Pl. En.* 399; *Gould, B. Eur.* pl. 284; *Ferd., B. Ind.* iii p. 735; *Str. F.* iv. p. 22; *Murray, Hdbk., Zool., &c., Sind,* p. 225; *id., Vert. Zool. Sind,* p. 267.—The BLACK STORK.

Head, neck, nape, chin, throat, breast, back and greater and lesser wing coverts glossy black with blue, green and coppery reflections; primaries black; tail black; under tail coverts and under parts from below the breast white; legs orange red; nude orbitar area reddish brown; bill blood red; irides dark brown.

*Length.*—44 inches; wing 24; tail 10; bill at front 8 inches.

*Hab.*—Sind, Punjab, N.-W. and Central Provinces, Ouh, Bengal, Kutch, Concan, the Deccan, Guzerat and Rajputana, also Afghanistan. A winter visitant to India.

**1340. Ciconia alba** (Belon.), *Bodd., Tab. Pl. En.* 865; *Gould, B. Eur.* pl. 283; *Ferd., B. Ind.* iii. p. 736, No. 919; *Str. F.* iv. p. 22; *Murray, Hdbk., Zool., &c., Sind,* 225; *id., Vert. Zool., Sind.* p. 267.—The WHITE STORK.

Head, crown, nape, chin, throat, breast and back pure white; greater wing coverts glossy black, shaded with grey towards the shafts; primaries, secondaries and tertiaries black; nude orbitar area black; legs red; irides brown.

*Length.*—44 inches; wing 23 to 25; tail 10; bill at front 7·5 to 7·75.

*Hab.*—Sind, the Deccan, Concan, Rajputana, Kutch, Guzerat and Central India; also the Punjab, N.-W. Provinces, Oudh, and Bengal. Along the banks of the Indus and the edges of lakes and swamps; in Sind it is not uncommon during winter. Feeds on lizards, molluscs, &c.

**1341. Ciconia leucocephala** (Gm.), *Bodd., Tab. Pl. Enl.* 906; *Ferd., B. Ind.* iii. p. 737, No. 920; *Murray, Hdbk., Zool., &c., Sind,* p. 226; *id., Vert. Zool., Sind,* p. 267. *Ardea leucocephala, Gmel., Syst. Nat.* i. p. 642. *Melanopelargus episcopus, Hume and Henders., Lah. to Yark.,* p. 295; *Hume, Nests and Eggs Ind. B.* p. 609. *Dissura episcopus, Hume, Str. F.* viii. p. 114; *Legge, B. Ceylon* p. 1119; *Oates, B. Br. Burm.* ii. p. 265. *Dissura episcopus, Bodd., Str. F.* vi. p. 469.—The WHITE-NECKED STORK.

Head black; back of neck glossed with purple, also the upper back, breast and upper abdomen; neck white; primaries and upper tail coverts glossed with green, also the lower back; tail white; irides crimson; eyelids and nude orbital area plumbeous; throat purplish; bill black, reddish on the anterior half; feet red.

*Length*.—36 to 37 inches; extent 70; wing 20; tail 7; bill at front 6.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Kutch (?), Rajputana (?), Guzerat, Concan, Deccan, South and Central India; also British Burmah and Ceylon.

### Family, ARDEIDÆ.—HERONS.

All the members of the *Ardeidæ* family swarm throughout India in suitable localities. All are permanent residents and breed from May to September. Their nests are generally loose structures, some more or less compact, and built of twigs, &c., on trees, standing in the vicinity of water, and particularly on those in the middle of large sheets of water. Eggs, 3 to 4, glossless, and in colour from pale sea green to bluish green, but it is not uncommon to find single nests containing from 8 to 10 eggs, differing in shape, size and colour.

The following, from Hume's *Nests and Eggs*, gives the average size of the eggs of the different species:—

<i>Ardea cinerea</i> .....	2'27 × 1'66
<i>Ardea purpurea</i> .....	2'17 × 1'56
<i>Herodias alba</i> .....	2'11 × 1'55
<i>Herodias garzetta</i> .....	1'73 × 1'22
<i>Demigretta gularis</i> .....	1' 7 × 1' 3
<i>Bubulcus coromanda</i> .....	1'71 × 1'32
<i>Ardeola grayi</i> . .....	1'48 × 1'17
<i>Butorides javanica</i> .....	1'64 × 1'23

An account by Layard of the breeding of *Herodias garzetta* and kindred species in Ceylon, conveys exactly what is observable in the breeding season of the *Ardeidæ* in India generally, and along the canals, &c., in the Narra Districts, and other large sheets of water in Sind.

During this season almost all the large pieces of water in India, unfrequented and distant from human habitation, in which trees are standing out of reach, except by boats, large colonies of ibises, spoonbills, cormorants, snake-birds, night-herons, &c., may be seen. During the day, except by the droppings of the birds, which coat the branches so thickly with lime, little suspicion would be excited of the spot being a heronry, as most of the birds, except a few sitting close, are away feeding, but towards eve, hundreds would be seen coming to roost, amid a continuous cackling. The report of a gun amongst them would present a scene scarcely describable. If disturbed before they have begun to lay, they are said to entirely desert the spot, and carry away

almost every stick they had used in building and to begin operations afresh in a distant locality.

Gen. **Ardea**—Linn.

Bill slender, the tip scooped; upper mandible with a groove from the nostril, but not extending to the tip; nostril covered partially by membrane; 2nd and 3rd quills longest; tarsi long and scutellate in front.

**1342. *Ardea goliath*, Temm., Pl. Col. 474; Rupp., Faun. Abyss. pl. 26; Jerd., B. Ind. iii. p. 739; Hume, Nests and Eggs Ind. B. p. 610, No. 621; id., Str. F. i. p. 105; vii. p. 495.—The GIANT HERON.**

Upper plumage dark blue grey; short occipital crest and rest of head dark brown; sides of the head and entire neck chestnut brown; chin and throat white; neck in front white with black streaks; breast and abdomen dark chestnut brown. The young bird is dull grey above, the head, ear coverts and back of neck are pale rufous cinnamon. Bill dusky above, beneath and tip greenish; irides pale yellow; legs blackish (Jerd.)

*Length*.—55 to 65 inches; wing 24; tail 10; bill at front 8; tarsus 9; standing height nearly 4 feet.

*Hab.*—Bengal, near Calcutta and the Khasia hills. Nothing certain appears to be known of its nidification.

**1343. *Ardea sumatrana*, Raffles, Trans. Linn. Soc. xiii. p. 325; Jerd., B. Ind. ii. p. 740 (part); Hume, Nests and Eggs, p. 610 (part); Salvad., Ucc. Born. p. 344; Blyth, B. Burm. p. 159; Hume and Dav., Str. F. vi. p. 469; id., Str. F. viii. p. 114. *Ardea typhon*, Temm., Pl. Col. 745. *Ardea tectirostris*, Gould, P. Z. S. 1843, p. 22; id., B. Austr. vi. pl. 54.—The GREAT SLATY HERON.**

Entire upper surface deep slaty; scapulars and feathers of the interscapular region linear, lanceolate, and elongated, with the terminal portions greyish white; those of the base of the neck similar but less elongated; crown with a dull purplish shade, also on the occiput, crown, back and sides of the neck; occipital crest long, linear and greyish white, about 9 inches long; orbital region, a band above and below the eye to the commissure bare; ear coverts and sides of the occiput light ashy brown, sometimes faintly rufescent; chin, upper part of throat, and feathers on either side of the base of the lower mandible white; rest of the throat and foreneck mingled ashy brown and slaty, with here and there a slightly ruddy tinge; feathers of the base and sides and front of the neck elongated, some of them fully seven inches in length, linear lanceolate, and the terminal portions pearl grey; rest of entire lower surface ash grey; wing lining, axillaries and under surface of the wing pure blue slate colour. (Hume.)

*Length*.—50 inches; tail 6; wing 18·5; tarsus 7; bill at front 6·5 (*Hume*); irides bright yellow; facial skin dirty green; upper mandible horny black; lower one whitish horny, yellowish towards the tip.

*Hab*.—Southern Tenasserim from Mergui to Bankasoon, Recorded also from Arracan.

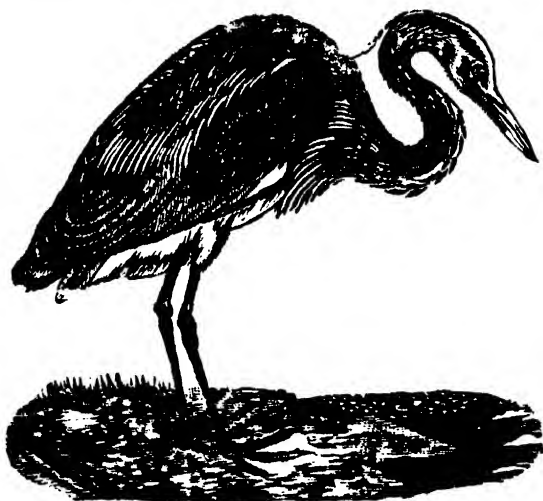
**1344. *Ardea insignis* (*Hodgson*), *Jerd.*, *B. Ind.* iii. p. 740; *Hume, Nests and Eggs Ind. B.* p. 160; *id.*, *Sr. F.* vi. p. 471. *Ardea fusca*, *Blyth*, *J. A. S. B.* xviii. p. 73.—The DUSKY GREY HERON.**

General plumage dusky cinereous, with a crest of a few narrow ashy feathers, the longest about 7·8 inches; quills and tail dark slaty; sides of the head and neck slightly tinged with rufous; elongated breast plumes fine silvery grey, edged with dusky at the base; rest of lower parts mingled ashy and rufous; scapulars elongated, lanceolate and tipped with silvery grey. Bill dusky above, yellow at the gape and bottom of lower mandible; feet dark greenish grey.

*Length*.—46 inches; wing 19; tail 6·5; bill at front 7; tarsus 7; standing height about 42 inches; hind toe and claw 4·5 inches.

*Hab*.—N.-E. Bengal, the Sikkim Terai, Assam, and Arracan, extending to Malayana.

**1345. *Ardea cinerea*, *Linn.*, *Syst. Nat.* i. p. 235; *Naum, Vogt.* t. 220; *Gould, B. Eur.* pl. 274; *Jerd.*, *B. Ind.* iii. p. 741; *Hume, Str. F.* i. p. 253; *Murray, Hdbk.*, *Zool.*, &c., *Sind*, p. 226; *Hume, Nests and Eggs Ind. B.* p. 610; *Dresser, B. Eur.* vi. p. 217, pl.; *Oates, B. Br. Burm.* ii. p. 245.—The COMMON HERON.**



*Ardea cinerea.*

Forehead, sides of the head and crown white; a narrow streak from the base of the upper mandible over each eye, and another above it merging into the long occipital feathers, black; neck behind bluish ashy; in front white, with two rows of black elongate spots; breast and under surface white; back and wing coverts bluish ashy grey; primaries black; scapulars silvery grey; tail bluish ashy; bill dark yellow, brown on the upper mandible; irides yellow; nude orbital area greenish.

*Length*.—39 inches; wing 18; tail 8; bill at front 5.

*Hab*.—Throughout India and Europe. In Sind the Mohannas or fishermen use this species as a decoy in the capture of wild fowl. Each boat has usually from 5 to 10 birds. Their eyelids are sewn up, and they stand motionless on the cross bar of the rudder gear or perched along the edges of the boat. They are fed daily, and during summer, when the occupation of wild fowl catching has ceased, serve the fishermen as food in the absence of anything better. Breeds throughout India from April to July, building nests on trees in small parties; colour of eggs sea green; size from 2·08 to 2·48 in length and 1·48 to 1·79 in breadth.

**1346. *Ardea purpurea*, Linn., *Syst. Nat.* i. p. 236; *Ferd., B. Ind.* iii. p. 743; *Hume, Nests and Eggs Ind. B.* p. 611; *Salvad., Ucc. Born.* p. 345; *Blyth, B. Br. Burm.* p. 159; *Dresser, B. Eur.* vi. p. 217, pl.; *Legge, B. Ceylon* p. 1132; *Oates, Str. F.* x. p. 243; *id., B. Br. Burm.* ii. p. 245; *Murray, Vert. Zool., Sind*, p. 269.—The BLUE HERON.**

Head glossy black, with a lengthened black crest, the two middle feathers of which extend 3—4 inches beyond the rest; sides of the head rusty yellow, with three longitudinal narrow black lines, one extends behind the head, and is continued down the neck, and two lateral ones from the eyes to the breast; chin and throat white; neck in front variegated with rufous black and purple, the feathers on the top of the breast long and acuminate, purplish white; back, wings, and tail reddish ash; scapulars purple, long, forming a brilliant plume on each side; breast and flanks deep brownish red, rest of under parts a little paler. Bill deep yellow; orbital skin greenish yellow; tarsus reddish brown.

*Length*.—36 to 42 inches; wing 15·5; tail 5·75; bill at front 5·37; tarsus 5·25.

*Hab*.—Throughout India and Ceylon, extending into Burmah. Habits and nidification the same as those of the Common Heron.

#### Gen. *Herodias*.—*Boie*.

Bill moderately long, slender, straight and compressed to the tip; plumage white. In breeding plumage with a long dorsal train composed of lax decomposed feathers, and pectoral plumes in some. The following is a key given by Mr. Hume to the Indian species of the genus:—



Species.	Non-breeding plumage.		Breeding plumage.				Dimensions.			
	Bill.	Bill.	Crest.	Dorsal train.	Pectoral plumes.	Bill at front.	Wing.	Tarsus.	Nude portion of tibia.	Mid-toe and claw.
<i>H. alba</i> , Linn. <i>Ferd.</i> , <i>B. Ind.</i> iii. 744.	Yellow.	Black...	None.....	Long; extending 5 inches beyond tail.	None.....	50	17.2	7.91	5.2	4.7
* <i>H. eulophotes</i> .	Yellow.	Yellow.	Of numerous straight feathers, 4 inches long.	Not exceeding the tail.	3 inches long	38	9.3	3.9	...	...
<i>H. intermedia</i> , <i>V. Haselt.</i> <i>Ferd.</i> , <i>B. Ind.</i> iii. 745.	Yellow.	Black...	None.....	Long; about 7-8 inches beyond tail.	Of long decomposed feathers.	268 to 309	11.15 to 12.65	4.1 to 4.6	2.8 to 3.1	3.62 to 4.05
<i>H. garzetta</i> , <i>Linn.</i> , <i>Ferd.</i> , <i>B.</i> <i>Ind.</i> iii. 746.	Black...	Black...	Of 2 narrow feathers, 5-6 inches long.	Long; curling up at point scarcely extending beyond the tail.	Of long narrow, ordinary feathers.	3.1 to 3.6	9.8 to 11.4	3.7 to 4.6	1.8 to 2.75	2.75 to 3.15

\* *Hab.*—Tenasserim and Southern Pegu.

**1347. *Herodias alba* (Linn.),** *Ferd.*, *B. Ind.* ii. p. 744; *Blyth, B. Burm.* p. 159; *Legge, B. Ceylon* p. 1138; *Murray, Vert. Zool., Sind*, p. 270. *Ardea alba* Linn., *Syst. Nat.* i. p. 239; *Dresser, B. Eur.* vi. p. 231, pl. *Ardea torra* (Buch.), *Frankl. P. Z. S.* 1831, p. 123. *Herodias torra*, *Salvad., Ucc. Born.* p. 347; *Scully, Str. F.* viii. p. 360. *Ardea egretta*, *apud Hume, Nests and Eggs Ind. B.* p. 613.—The LARGE WHITE HERON.

*In Breeding Plumage.*—Whole plumage pure white; dorsal train of decomposed feathers extending about 4—5 inches beyond the tail; no crest, nor pectoral plumes. No dorsal train in non-breeding plumage. Bill yellow in winter, black in summer; irides pale yellow.

*Length.*—34 to 36 inches; tail 6; wing 13·5 to 17; tarsus 5·2 to 6·1; bill at front 4 to 5; from gape 5·5.

*Hab.*—Throughout India, Ceylon, and Burmah; nidificates on trees in small parties; eggs pale bluish green.

**1348. *Herodias intermedia* (Von Hasselt),** *Salvad., Ucc. Born.* p. 348; *Blyth, B. Burm.* p. 159; *Legge, B. Ceylon*, p. 1141; *Murray, Vert. Zool., Sind*, p. 270; *Oates, B. Br. Burm.* ii. p. 247. *Ardea nigrirostris* (Gray), *Hardw. Ill. Ind. Zool.*, pl. *Herodias plumifera*, *Gould, B. Austr.* vi. pl. 57. *Ardea intermedia*, *Von. Hass., Wagler, Ibis*, 1829, p. 659; *Hume, Nests and Eggs Ind. B.* p. 615. *Herodias egrettoides*, *Ferd., B. Ind.* ii. p. 745.—The LESSER WHITE HERON.

*Breeding Plumage.*—Whole plumage pure white, dorsal train exceeding the tail by 7—8 inches; a long soft tuft of pectoral feathers; no crest, no dorsal nor pectoral plumes in winter. Bill black in summer, yellow with a black tip in winter; facial skin green; irides yellow.

*Length.*—26 to 28 inches; tail 5·5; wing 11·5 to 12·5; tarsus 4·3; bill at front 2·68 to 3·09.

*Hab.*—Generally distributed throughout India, Ceylon and Burma, but rare in the latter and in Southern India. Breeds during July and part of August, in colonies and generally in company of other kinds of Herons, Ibises, &c. The nest is not unlike that of its congeners, composed of thin twigs, lined or not with coarse sedge, but generally more closely packed. Eggs, 4 in number, broad ovals, rather pointed towards one end; pale sea or bluish sea-green, 1·68 to 2·08 in length, and 1·3 to 1·52 in breadth.

**1349. *Herodias garzetta* (Linn.),** *Ferd., B. Ind.* ii. p. 746; *Hume, Str. F.* iii. p. 190; *Legge, B. Ceylon* p. 1144; *Murray, Vert. Zool., Sind*, p. 270; *Oates, B. Br. Burm.* ii. p. 248. *Ardea garzetta*, Linn., *Syst. Nat.* i. p. 237; *Hume, Nests and Eggs Ind. B.* p. 616; *Dresser, B. Eur.* vii. p. 239. —The LITTLE BLACK-BILLED WHITE HERON.

*Breeding Plumage*.—Whole plumage white; crest of 2—3 narrow feathers about five inches long; dorsal train scarcely extending beyond the tail and curled upwards at tip; pectoral plumes long and pointed. In *non-breeding plumage* there is neither a crest nor a dorsal train. Bill always black; base of lower mandible yellowish; irides yellow; facial skin greenish yellow; tarsus black.

*Length*.—25 inches; tail 4; wing 9·6 to 11·4; bill from gape about 4; at front 3·1 to 3·6.

*Hab*.—India, Ceylon and Burmah. Breeds in June, July, and part of August. Nidification similar to *H. intermedia*; eggs of the same colour, but from 1·6 to 1·8 in length, and 1·25 to 1·38 in breadth.

**1350. *Herodias eulophotes*, Swinh., *Ibis*, 1860, p. 64; *Blyth, Ibis*, 1865, p. 37; *Blyth, B. Br. Burm.* p. 159; *Hume and Dav., Str. F.* vi. pp. 478, 480; *Hume, Str. F.* viii. p. 114; *Oates, B. Br. Burm.* ii. p. 249.**—The LITTLE YELLOW-BILLED WHITE HERON.

*In Breeding Plumage*.—The whole plumage is white; crest of numerous straight feathers, four inches in length; dorsal train not exceeding the tail; pectoral plumes about 3 inches long; bill yellow; legs black.

*Length*.—20 to 22 inches; tail 3·1 to 3·7; wing 9·3 to 10; tarsus 2·9; bill from gape 3·8 to 3·9.

*Hab*.—Tenasserim, at Mergui, also at Amherst. Inhabits Formosa and South China.

#### Gen. *Demi-egretta*.—*Blyth*.

Bill long and more slender than in *Herodias*; adult plumage dark, otherwise as in *Herodias*.

**1351. *Demi-egretta gularis*, Bosc., *Act. Soc. H. N.* i. t. 2; *Meyer, Zool. Ann.* i. t. 1; *Hume, Str. F.* i. p. 254. *Demi-egretta schistacea* (*Licht.*), *Hemp. and Ehr. Sym. Phys.* t. 6. *Demi-egretta asha*, *Sykes, Cat.* 171; *Jerd., B. Ind.* iii. p. 747, No. 928; *Murray, Hdbk., Zool., &c., Sind*, p. 227.**—The ASHY EGRET.

*Adult*.—In breeding season, deep slaty blue; chin, throat, sides of the head, nearly to the gape and the base of the ear coverts, white; an occipital crest and dorsal train of decomposed feathers, concolorous with the upper parts, and not reaching quite to the end of the tail; pectoral plumes narrow and pointed; bill reddish yellow, dusky above; nude orbital skin yellowish green; legs blackish; feet and lower part of tarsus yellowish.

*Length*.—24 to 27 inches; wing 10 to 11·4; tail 3 to 3·8; irides yellow; bare portion of tibia 2·2 to 2·9; bill 3·5 to 4·1; tarsus 3·9 to 4·4; mid-toe and claw 2·3 to 2·6. Affects the mud flats in the Kurrachee harbour.

The young or intermediate stage of plumage is white throughout, some of the wing coverts being greyish.

*Hab.*—Sind, Mekran, Arabian and Western Coasts, also the Eastern Coast to Ceylon. Nidification the same as of the Herons. Eggs, a rounded oval, pale blue, 4—6 in number,  $1.83 \times 1.42$  inch.

**1352. *Demi-egretta sacra*, Gmel., Syst. Nat. i. p. 640; Hume, Nests and Eggs Ind. B. p. 618; Salvad., Ucc. Born. p. 346; Wald., Ibis, 1873, p. 318; Hume, Str. F. i. p. 254; ii. p. 304; Hume and Dav., Str. F. vi. p. 481; Hume, Str. F. viii. p. 114; Oates, B. Br. Burm. ii. p. 250. *Ardea jugularis* (Forst.), Wagler, Syst. Av. *Ardea*, Sp. 18. *Herodias concolor*, Blyth, B. Burm. p. 160.—The BLUE REEF HERON or EGRET.**

*Breeding Plumage.*—Whole plumage deep blackish slate colour; head with occipital crest nearly black; pectoral plumes and dorsal train much elongated, the former about 3.5 inches in length; the latter, reaching to the tip of the tail; abdomen and vent tinged with brownish ashy in some; chin with or without a small white streak down the throat. Young and adolescent birds are pure white, with dorsal and pectoral plumes fully developed. In both stages there are no dorsal and pectoral plumes in winter.

*Length.*—21 to 24 inches; tail 3 to 4.25; wing 9.85 to 11.75; tarsus 2.7 to 3.1; bill at front 2.65 to 3.5.

*Hab.*—The whole coast of British Burmah, the Andamans, and the Nicobars, and spread along the shores of the whole of Eastern Asia. Breeds from April to June. Eggs pale green.

### **Bubulcus.—Pucher.**

Bill shorter than in the *Demi-egretta*; legs longer; plumes during the breeding season yellow.

**1353. *Bubulcus coromandus* (Bodd.), Salvad., Ucc. Born. p. 350; Legge, B. Ceylon, p. 1147, Oates, Str. F. x. p. 243; id., B. Br. Burm. ii. p. 251; Murray, Vert. Zool., Sind, p. 271. *Cancroma coromanda*, Bodd., Tabl. Pl. Enl. p. 54. *Buphus coromanda*, Jerd., B. Ind. iii. p. 749; Blyth, B. Burm. p. 160; Bingham, Str. F. ix. p. 197. *Ardea coromanda*, Hume, Nests and Eggs Ind. B. p. 618.—The CATTLE EGRET.**

In breeding plumage the head, sides of the face, neck in front (except a narrow mesial line, which is white) nape and part of the hind neck, and the decomposed elongate feathers brilliant orange, the filamentose feathers of the back reaching to the end of the closed wings, rest of the plumage pure white; legs yellowish green, the joints tinged plumbeous; bill deep orange yellow; orbital skin yellowish, with a pinkish tinge; irides pale yellow; mid-claw serrated.

*Length.*—21 inches; wing 10·25; tail 4; bill at front 2·5; tarsus 3·5. In winter the plumage is entirely white.

*Hab.*—Sind and throughout India, Burmah and Ceylon. It has gained the name of the Cattle Egret from its being always found amongst cattle when grazing, usually perched on their heads or backs. It is seldom, like the other species, seen wading in water. Feeds chiefly on insects, small frogs or tadpoles. Breeds from April to July. Eggs, 4—5, pale sea-green.

### Gen. *Ardeola*.—*Boie*.

Tibia feathered nearly to the knee; tarsus shorter than in *Bubulcus*; toes also shorter.

**1354. *Ardeola grayi* (Sykes), Hume, *Nests and Eggs Ind. Birds* p. 619; Blyth, *B. Burm.* p. 160; Legge, *B. Ceylon*, p. 1150; Scully, *Str. F.* viii, p. 361. *Ardea grayi*, Sykes, *P. Z. S.*, 1832, p. 158. *Ardeola leucoptera*, *apud Jerd.*, *B. Ind.* iii, p. 751.—THE POND HERON OR PADDY BIRD.**

In summer dress the head is greyish or buffy yellow with an elongate white crest; neck in front, except a fulvous mesial line, back of the neck, and also breast, with the elongated feathers a little paler than the head; scapulars pale greyish brown; elongated dorsal feathers dark maroon; rest of the plumage white; tarsal plumes fulvous or pale buff; bill yellowish, bluish at the base and tipped black; orbital skin greenish yellow; irides bright yellow; legs and feet dull greenish.

In winter the crown of the head and nape are dark brown, the feathers with narrow mesial shaft-streaks; neck behind, on the sides and ~~breast fulvous~~ or pale buff, the feathers edged with dusky brown; back and scapulars grey brown or pale ashy brown; lower back, rump, upper and under tail coverts, also the tail and abdomen, pure white; thigh coverts fulvous; primaries white, dark shafted, the outer webs of the first three quills and also their tips greyish brown; secondaries pure white; wing coverts white, tinged very slightly in some specimens with greyish.

*Length.*—18 to 19 inches; wing 8 to 8·5; tail 3; bill at front 2·5.

*Hab.*—Sind and throughout India, Ceylon, and the Burmese countries. Breeds from May to August nesting in trees. Eggs, 4—6, pale bluish green, elongated ovals, 1·35 to 1·62 in length by 1·1 to 1·25 in breadth. Abundant in all moist localities, at the edges of ponds, ditches, marshes, and lakes, and especially in rice fields.

**1355. *Ardeola prasinoceros*, Swinh., *Ibis*, 1860, p. 64; *id.*, *P. Z. S.* 1871, p. 413; Hume, *Str. F.* ii, p. 483; Blyth, *B. Burm.* p. 160; Anders., *I'unnan Exped.* p. 689; Hume and Dav., *Str. F.* vi, p. 481; Hume, *Str.***

*F.* viii. p. 114. *Ardea leucoptera*, *apud Hume*, *Str. F.* viii. p. 161.—The CHINESE POND HERON.

*In Breeding Plumage*.—Whole head with long pointed occipital crest and entire neck rich vinous chestnut; pectoral plumes long and soft, deep chestnut tinged with purple; dorsal train black, tinged with purple; chin, throat, wings, tail, rump and upper tail coverts, also the lower plumage, white. In winter both sexes resemble *A. grayi*, except that the back, scapulars, and tertiaries are a richer brown, tinged with chocolate or rufous; irides bright yellow; base of upper mandible bluish, rest black; feet pale orange. (*Oates*.)

*Length*.—17 to 18 inches; tail 3·1; wing 8·6; tarsus 2·2; bill from gape 3·4; crest 4 inches long.

*Hab*.—Southern Tenasserim and the Malay Peninsula. Occurs also in S. China and Cochin-China.

### Gen. *Butorides*.—*Blyth*.

Bill moderately long and stout; tibia feathered nearly to the knee; inner toe short; head crested.

**1356. *Butorides javanica* (*Horsf.*), *Ferd.*, *B. Ind.* iii. p. 752; *Wald.*, *Trans. Zool. Soc.* viii. p. 100; *Hume*, *Nests and Eggs Ind. B.* p. 620; *Blyth*, *B. Burm.* p. 160; *Legge*, *B. Ceylon* p. 1153; *Murray*, *Vert. Zool.*, *Sind*, p. 272; *Oates*, *B. Br. Burm.* ii. p. 254. *Ardea javanica*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 190.—The LITTLE GREEN BITTERN.**

Forehead and crown glossy black, also the long occipital crest; a streak from behind the eye including the ear coverts white, in some with a fulvescent tinge; another streak, which is black, below the eye; back and sides of the neck, also the breast and abdomen, greyish brown, ashy brown in some; chin and a streak down the front of the neck white; back and scapulars green, the feathers lengthened, lanceolate and white-shafted; the tertiaries white edged; wing coverts glossy green, edged with pale buff or fulvous; secondaries margined round their tips with yellowish white; tail dark slaty; under tail coverts greyish; quills dark slaty, narrowly tipped with white; bill black above, pale yellow beneath; legs yellowish green.

*Length*.—16 to 16·75 inches; wing 6·75; tail 2·5; bare part of tibia 0·5; irides bright yellow; nude orbital skin dull green.

The young bird—or bird of the year—is very differently marked. The head is black, with the feathers narrowly striated mesially with rufescent; sides of the neck and breast and lower parts fulvescent white, the feathers edged with dark brown; chin, throat and a line down the neck white; back and scapulars brown with a greenish tinge; the scapulars with a minute triangular white spot at the tip, Primaries and secondaries dusky brown, each with a

triangular white or fulvous white spot at the tip; primary coverts the same; wing coverts brown, broadly edged with rufescent, each feather with a rufescent or white triangular spot at the tip; edge of the wing fulvescent white.

*Hab.*—Sind and throughout the greater part of India, extending to Ceylon and Burmah; also the Malay Peninsula and islands as far as Australia, affecting water courses, wooded streams, nullahs and large open lakes. Halts nocturnal, generally issuing from its retreat at about sunset. Breeds in June and July, making nests in small companies on low trees or bushes. Eggs 4—6 in number, greenish white.

Gen. *Ardetta*.—Gray.

Bill rather slender and straight; toes and claws long; tarsus short, otherwise as in *Butorides*. Habit nocturnal.

**1357. *Ardetta flavicollis*** (*Lath.*), *Jerd.*, *B. Ind.* iii. p. 753; *Blyth*, *B. Burm.* p. 160; *Wald.*, *Trans. Zool. Soc.* ix. p. 236; *Hume*, *Str. F.* viii. p. 114. *Ardea flavicollis*, *Lath.*, *Ind. Orn.* ii. p. 701; *Hume*, *Nests and Eggs Ind. B.* p. 621. *Ardeiralla flavicollis*, *Salvad.*, *Ucc. Born.* p. 353; *Legge*, *B. Ceylon* p. 1159; *Oates*, *B. Br. Burm.* ii. p. 255.—The BLUE BITTERN.

"In the breeding season the plumage is dull cinereous black; chin and throat with the feathers tipped white, or with red brown; the larger feathers of the neck are mixed with white, red brown and dusky black, each feather having some black at the base and tip, and more or less red brown on one web only; a stripe of golden yellow down the side of the neck, widening inferiorly; feathers of the back forming the dorsal plume, lengthened, but not decomposed; the feathers of the breast dark ashy, slightly lengthened; abdomen dusky, mixed with whitish; inner wing coverts dusky reddish. The young bird has the feathers slightly edged with rufous, and the throat and neck less richly coloured than in the adult; bill livid red, dusky on the culmen; cere livid purple; irides yellow, in some with an outer circle of red; legs pale brown, with a tinge of green in some, reddish brown in others."

*Length.*—23 to 24 inches; wing 8·5; tail 3; bill at front 3·5; tarsus 2·5. (*Jerdon*.)

*Hab.*—Sind, Punjab, N.-W. Provinces, Deccan, Concan, and nearly throughout India, extending to Ceylon and Burmah. Affects swamps, rice fields and beds of rushes and reeds. Breeds in Sind. Mr. Doig obtained the eggs of a colony of these birds in the month of May on the Narra Canal. He says—"Once the sun is well up, they are seldom seen, unless actually beaten out of the dense tamarisk and reed jungle in which they lie hid." They are nocturnal feeders; the nests are formed of tamarisk twigs, with sometimes a few aquatic weeds on which the eggs are laid; always four in number, broad ovals, sharp at both ends, and nearly white in colour; size from 1·5 to 1·85 × 1·15 to 1·30 inches.

**1358. *Ardetta cinnamomea* (Gmel.), *Ferd.*, *B. Ind.* iii. p. 755; *Hume, Nests and Eggs Ind. B.* p. 622; *Salvad., Ucc. Born.* p. 354; *Blyth, B. Burm.* p. 160; *Hume and Dav., Str. F.* vi. p. 483; *Cripps, Str. F.* vi. p. 308; *Hume, Str. F.* viii. p. 114; *Oates, Str. F.* x. p. 243; *id.*, *B. Br. Burm.* ii. p. 256; *Murray, Vert. Zool., Sind.* p. 274. *Ardea cinnamomea* Gmel., *Syst. Nat.* i. p. 643. *Ardeiralla cinnamomea*, *Legge, B. Ceylon*, p. 1162.—The CHESTNUT BITTERN.**

Top of head, back and scapulars chestnut, the feathers centred slightly darker; chin and throat white, with a median chestnut line; foreneck and breast chestnut, the feathers slightly darker mesially, and the edges of those on the breast fulvous; a median fulvous line on the foreneck; thigh coverts also chestnut; primaries, secondaries and tail dark brown; wing coverts like the back, but more fulvous; flanks buffy, the feathers mesially streaked with dusky; abdomen, vent and under tail coverts white with a fulvous tinge in some; bill yellow, dusky superiorly; orbital skin yellow; irides yellow; legs yellowish with a greenish tinge.

*Length*.—15 to 16 inches; wing 6; tail 1·75; bill at front 1·8 to 2; tarsus 1·9 to 2.

In immature plumage the upper parts, wing coverts, scapulars, neck in front and breast, also the thigh coverts reddish brown, or slightly darker, the feathers of the back and breast margined from ferruginous buff to fulvous.

*Hab.*—Sind, and nearly throughout India, Ceylon and Burmah and Malayana. Breeds in July and August, nesting on the ground at the edges of swamps or on the small embankments between the paddy fields. Eggs, generally six in number, dull white in colour.

**1359. *Ardetta sinensis***, *Gmel., Syst. Nat.* i. p. 642; *Ferd., B. Ind.* ii. p. 755; *Hume, Nests and Eggs*, p. 623; *id.*, *Str. F.* i. p. 308; ii. p. 311; iii. p. 193; *Salvad., Ucc. Born.* p. 354; *Blyth, B. Burm.* p. 160; *Legge, B. Ceylon* p. 1156; *Oates, Str. F.* x. p. 243; *Kelham, Ibis*, 1882, p. 196; *Murray, Vert. Zool., Sind.* p. 274; *Oates, B. Br. Burm.* ii. p. 257.—The LITTLE YELLOW BITTERN.

Top of head cinnamon rufous, the feathers centred broadly with black, giving it quite a black appearance; neck behind, back, scapulars, tertiaries and wing coverts deep cinnamon-rufous, the feathers margined with fulvous or bright buff; primaries and secondaries, greater wing coverts and tail black; edge of wing and under wing coverts fulvous white; chin and throat white, with a median buff line; sides of the breast deep brown, margined with buff; breast bright buff, margined paler; abdomen, vent and under tail coverts buffy white; legs yellowish green; bill pale yellow, brownish superiorly.

*Length*.—13 inches; wing 5·25; tail 1·75; bill at front 2; tarsus 1·7 to 1·8; mid-toe 1 inch.



*Hab.*—Sind, Bengal, Kutch, Deccan, and nearly throughout India; also Ceylon and Burmah generally, extending to the Malay Peninsula and Islands of Java, Borneo and Sumatra. It is less common than the last, and frequents similar situations, *i.e.*, high reeds and thickets. All the species are nocturnal feeders, and remain hid during the day in dense cover. Breeds during July and August in similar situations as the last. Eggs, four in number, pale green.

**1330. *Ardetta minuta*, Linn., Syst. Nat. i. p. 670; Hardw., Ill. Ind. Zool. pl.; Bodd., Tabl. Pl. Enl. 323; Naum., Vogt. t. 227; Gould, B. Eur. pl. 282; Jerd., B. Ind. iii. p. 756, No. 935; Hume, Str. F. i. p. 256; Hume, Nests and Eggs Ind. B. p. 624.—The LITTLE BITTERN.**

Top of the head, back, scapulars and tail black, with greenish reflections; hind-neck nearly bare of feathers, those of the foreneck falling back and covering it; cheeks, chin, neck and all the lower parts of the body reddish buff or inclining to chestnut; the feathers on the sides of the breast are black, edged with buff; those of the flanks long, and narrowly striped mesially with pale brown; primaries and secondaries black or greyish black; greater and lesser wing coverts dull yellowish buff; bill bright yellow, dusky above; orbital skin and irides yellow; feet greenish with a yellow tinge.

*Length.*—15 inches; wing 5·75; tail 2; bill at front 1·75.

*Hab.*—Sind, Bengal, Punjab, Beloochistan, Persia, Arabia and the Himalayas are the only known localities where this species has been found outside of Europe. It breeds in the Narra Districts in Sind, where Mr. S. Doig took its eggs. (*Str. F.* viii. 372, 379.) Each nest contained 4—6 eggs, elongate ovals, and pure white, with a very slight tinge of sea green not perceptible in the blown egg.

#### Gen. *Botaurus*.—Briss.

Bill rather short, stout and rounded; tip scooped; the upper mandible curved to the tip, and longer than the lower; tarsi short; nostrils narrow, situated near the base of the bill; 1st to 3rd quills of wing longest.

**1331. *Botaurus stellaris*, Linn., Syst. Nat. i. p. 230; Jerd., B. Ind. iii. p. 757; Hume, Nests and Eggs Ind. B. p. 624; Dresser, B. Eur. vi. p. 281, pl.; Murray, Vert. Zool., &c., Sind, p. 275; Oates, B. Br. Burm. ii. p. 258.—The COMMON EUROPEAN BITTERN.**

Forehead, crown and nape glossy black, also a moustachial stripe; sides of the face and ear coverts buff, with narrow dusky streaks; feathers of the sides of the neck long and lax, bright buff, and with irregular black transverse bars; hind neck bare, covered by the feathers of the foreneck; chin and throat fulvous, with a median rufescent line; foreneck and breast the same, each feather with irregular dark brown, nearly black bars and spots; lower breast

with long, lax, feathers, which are buff, with broad longitudinal black stripes ; flanks the same ; abdomen rufous buff, with narrow dark mesial streaks ; back and scapulars black, the feathers edged, barred and mottled with buff ; tail buff, thickly mottled and with zigzag markings of dusky ; primaries and secondaries dark brown barred with rufous ; wing coverts buff, barred and mottled with dusky brown ; bill pale yellow, dusky above ; orbits yellow ; irides gamboge yellow ; legs greenish yellow.

*Length*.—30 inches ; wing 13·5 ; tail 4·5 ; tarsus 3·75 to 3·9.

*Hab*.—Sind, the Deccan, Punjab, N.-W. Provinces, Oudh, Bengal, and nearly all India, Burmah, and Ceylon ; Central and Southern Europe, Persia, Nubia, Beloochistan and S. Afghanistan.

The Bittern is a shy solitary bird ; it is never seen on the wing during the day, but sits hid among the reeds, rushes and other rank vegetation that prevail in the marsh, or bog where it may have taken up its abode. It is said to defend itself fiercely against a dog or falcon, with both its bill and claws, the bill with its extremely sharp point being however chiefly made use of. It is said to have been esteemed in falconry, owing to its habit, when flown at, of ascending in spiral circles, high up in the air, to keep above its enemy. Selby adds—"Should this manœuvre fail, it then prepares for the descent of the hawk, by setting its sharp bill perpendicularly upwards, upon which its antagonist frequently transfixes itself." Its boom or note is said to resemble the bellowing of a bull. It is also often uttered while the bird is soaring in the air, but the sound is feeble, compared with the hollow booming noise which it makes at night during the breeding season. Jerdon says it is excellent eating, not fishy in the smallest degree, and has a high game flavour.

### Gen. *Nycticorax*.—*Steph.*

Bill long, sharp, the gape extending below the eyes ; nostrils in a lateral groove covered by membranous scale ; wings with the 2nd and 3rd quills longest ; claw of mid-toe serrated ; tarsi irregularly scaled.

**1362. *Nycticorax griseus* (Linn.),** *Bodd., Tab. P. E.* 758, 759 ; *Naum., Vogt.* t. 225 ; *Gould, B. Eur.* pl. 279 ; *Jerd., B. Ind.* iii. 758, No. 937 ; *Dresser, B. Eur.* vi. p. 299, pl. ; *Hume, Str. F.* viii. p. 114 ; *Murray, Vert. Zool., Sind,* p. 276 ; *Legge, B. Ceylon,* p. 1165. *Nyctiardea nycticorax*, *Hume, Nests and Eggs Ind. B.* p. 624. *Ardea grisea*, *Linn., Syst. Nat.* i. p. 235 ; *Str. F.* vi. p. 415 ; *Murray, Hdbk., Zool., &c., Sind,* p. 228. (*Gadri, Sind*).—The NIGHT HERON.

Forehead and supercilium, also the chin, throat and a narrow mesial line on the foreneck white ; under tail coverts, breast and abdomen white, with a creamy tinge ; top of head and nape, also the back and scapulars black, glossed with green ; lengthened crest feathers 6—7 inches long, narrow and white,

tipped with brown; hind neck, wing coverts, tail and sides of the body ashy grey; first three quills emarginate near the tip; bill black, yellow at base of lower mandible; orbital skin yellowish green; irides blood red.

*Length.*—22 to 23 inches; wing 12·5; tail 3·75; bill at front 2·8; tarsus 3.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan and throughout India, Ceylon, and Burmah. It is a permanent resident in India, and breeds from May to September in societies. The nest is a loose structure of twigs. Eggs 3—4, glossless pale sea-green; size 1·92 × 1·35.

### Gen. **Gorsachius**,—*Pucher.*

Bill moderate, higher than broad at base; tarsus moderate; tibia feathered for the greater portion of its length; feet and toes long; neck thick.

**1363. *Gorsachius melanolophus* (*Raffles*), *Salvad., Ucc. Born.* p. 355; *Blyth, B. Burm.* p. 160; *Legge, B. Ceylon*, p. 1169. *Ardea melanolopha*, *Raffles, Trans. Linn. Soc.* xiii. p. 326. *Botaurus limnophilax*, *Salvad., Ucc. Born.* p. 355. *Gorsachius melanolophus*, *Hume, Str. F.* ii. p. 312; *Bourdillon, Str. F.* iii. p. 524; *Hume, Str. F.* viii. p. 114.—The MALAYAN TIGER BITTERN.**

Forehead, crown and a long occipital crest purplish black; sides of the head and back of the neck chestnut, as are also the back, rump, wing coverts, scapulars and tertiaries, but these parts are closely barred with undulating narrow bars of black; winglet black, broadly tipped with white; the first two or three primary coverts black, tipped with white; the others chestnut and also white tipped; primaries slaty black, tipped with white and with a subterminal patch of chestnut; secondaries also tipped with white; upper tail coverts and tail slaty brown; chin and throat whitish; front and sides of the neck and breast dull rufous grey; the centre of the throat and middle line of the neck and breast streaked with black, light buff and chestnut; under surface of the body dull chestnut, marked irregularly with black lines and white patches; under tail coverts white. Facial skin green; legs and feet greenish olive; irides greenish yellow.

*Length.*—19 inches; tail 3·5; wing 10·3; tarsus 2·5; bill from gape 2·3.

*Hab.*—Southern India and Ceylon; also Tenasserim, Arracan, and the Nicobars.

### Family, TANTALIDÆ.

Bill long, stout, rounded, curving downwards in many, flat in others; wings long; tail rather short; toes webbed at the base.

### Sub-Family, TANTALINÆ.

Bill long, slender and curved; sides compressed to the tip, or thick and rounded; tail even; inner toe shorter than outer; hind toe long.

Gen. **Tantalus**.—*Linn.*

Bill rounded, long and curved downwards; nostrils at the base of the bill; head and cheeks bare; tibia naked for half its length.

**1364. *Tantalus leucocephalus*, Penn. in Forst. Ind. Zool.** p. 20, pl. 10; *Gmel., Syst. Nat.* i. p. 649; *Ferd., B. Ind.* ii. p. 761, No. 938; *Hume, Nests and Eggs Ind. B.* p. 626; *Blyth, B. Burm.* p. 158; *Hume and Dav., Str. F.* v. p. 484, *Newton, Str. F.* viii. p. 415; *Legge, B. Ceylon*, p. 1100; *Oates, Str. F.* x. p. 244; *id., B. Br. Burm.* ii. p. 267; *Murray, Vert. Zool., Sind*, p. 276.—The PELICAN IBIS.

Plumage white; quills and tail richly glossed greenish black; tertiaries white, tinged with rosy, with a dark band near the end and a white tip, the feathers lax and decomposed; lesser and median coverts glossy green, edged with white; greater coverts white; bill yellow, the tip greenish, as are the naked orbits, head and gular skin; irides pale yellow brown grey in some; legs fleshy red.

*Length*.—40 to 42 inches; expanse 71; wing 20; tail 6.25; tarsus 8 10.

The young have the cheeks and ear coverts grey; head and neck brown; lower plumage smoky white, darker across the abdomen and on the sides of the body.

*Hab.*—Extremely common throughout India, Burmah and Ceylon, frequenting rivers, tanks, marshes, &c., generally in small parties of 10 or a dozen. Breeds from May to August on high trees. Eggs, 3—4, glossless, dull white with a thick compact shell.

**Sub-Family PLATALÆINÆ**,—SPOONBILLS.

Bill flat, spatulate, long and rounded at the tip.

Gen. **Platalea**.—*Lin.*

Bill thin, flat, dilated and rounded at the tip (spatulate) otherwise as in *Tantalus*; toes connected by a small membrane extending as far as the second joint of the outer and the first joint of the inner one.

**1365. *Platalea leucorodia* (Linn.), Bodd. Tab. Pl. En.** 405; *Gould, B. Eur.* pl. 286; *Ferd., B. Ind.* iii. p. 763; *Murray, Hdbk., Zool., &c., Sind*, p. 229; *Murray, Vert. Zool., Sind*, p. 227.—The SPOONBILL.

Plumage pure white, except a buffy yellow patch on the upper breast, extending sometimes on to the back; orbital skin orange yellow, also the skin of the gullet; head crested; bill and legs black, spotted or barred with yellowish; the tip yellowish during winter; irides blood red; legs black; nude facial skin and gular pouch orange yellow.

*Length*.—31 to 36 inches; wing 14 to 16; tail 6.25 to 6.5; bill at front 7 to 8.5.

The young have the shafts and tips of the primaries black.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan and throughout India, frequenting rivers, lakes, &c.

Breeds throughout India nearly. Especially common in Sind and Ceylon. Nests made in trees; eggs white, chalky, broad ovals, and elongated 2·4 to 2·95 inch in length and 1·65 to 1·95 in breadth.

### Sub-Family ANASTOMINÆ.

Bill thick, stout, gaping in the middle.

#### Gen. *Anastomous*.—*Illiger*.

Bill long, curved, thick, solid, gaping in the middle, compressed at the sides; tail nearly even; nostrils basal, at the edge of the upper mandible; tarsi reticulated; tibia naked for half its length; toes webbed at the base.

**1366. *Anastomous oscitans* (Bodd.).** *Jerd., B. Ind.* iii. p. 765; *Hume, Nests and Eggs Ind. B.* p. 630; *Blyth, B. Burm.* p. 158; *Hume, Str. F.* iii. p. 192; *Hume, Str. F.* viii. p. 114; *Legge, B. Ceylon*, p. 1103; *Oates, Str. F.* x. p. 244; *Murray, Vert. Zool., Sind*, p. 277.—The SHELL IBIS.

*Young*—Plumage light grey, darker on the head and neck, the feathers on the latter hair-like; upper back, scapulars, primaries and secondaries, also the winglet and tail black, with purple reflections; nude skin of the chin and front of the eyes greenish black; in a later stage of plumage the head, sides of the face, nape and neck behind are dusky brown, the feathers short; neck in front, breast, lower parts, back, wing coverts and tail pure white, the primaries and secondaries also, their shafts black, also the shafts of the winglet; the first three primaries broadly margined with black on their outer and inner webs, their tips black; the inner webs of the primaries margined only to the notch; tertials white, also black-shafted; the upper series slaty grey, with their webs lax and disunited. In the breeding plumage the bird is entirely white; bill greenish black; nude orbital and gular skin blackish; irides grey or pale brown; legs blackish.

*Length*.—29 to 30 inches; wings 15 to 16; tail 7; bill at front 6·5 to 8; tarsus 5·25 to 5·5.

*Hab.*—Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Guzerat, and the Deccan; abundant in Bengal and Central India, also Burmah and Ceylon; chiefly found in the vicinity of rivers, lakes and marshes; resident in Sind. Breeds from July to September in company with *Threskiornis melanocephalus*. Eggs, creamy white, from 2 to 2·52 inches in length and from 1·48 to 1·82 in breadth.

### Sub-Family, IBIDINÆ.

Bill more slender, long and curved, as in *Anastomous*.

#### Gen. *Threskiornis*, *Gray*.

Bill nearly square at base, curved; upper mandible with a lateral groove extending to the tip; nostrils situated at its base; tail short; hind toe half as long as the mid-toe; head and neck nude; scapulars and tertials lengthened and decomposed; feathers of the breast elongated; plumage white.

**1367. *Threskiornis melanocephalus* (Lath.), *Jerd., B. Ind.* iii. p. 768; *Hume, Nests and Eggs Ind. B.* p. 632; *Murray, Vert. Zool., Sind*, p. 278. *Tantalus melanocephalus*, *Lath., Ind. Orn.* ii. p. 709. *Ibis melanocephalus*, *Salvad., Ucc. Born.* p. 359; *Blyth, B. Burm.* p. 158; *Legge, B. Ceylon*, p. 1106; *Oates, B. Br. Burm.* p. 268.—The WHITE IBIS.**

Head and neck nude; lower neck, back, wings and their coverts, primaries, secondaries, entire under surface from the breast and also the tail, white; scapulars and tertials lengthened, their outer webs disunited, and of a greyish colour. In another stage of plumage the quills are black with green reflections; bill and legs black; irides blood red.

*Length.*—29 to 30 inches; wing 14; tail 5·75; bill at front 6; tarsus 4.

*Hab.*—Sind, Mekran Coast, Persia, Rajputana, Kutch, Guzerat, Concan, Deccan, and nearly throughout India, Ceylon and Burmah. A resident wherever found; breeds from July to September. Eggs, 4—6, white, or dingy white, with a slight bluish tinge when fresh; size 2·5 × 1·75.

### Gen. *Geronticus*.

Bill more slender and longer than in *Ibidinæ*; plumage black.

**1368. *Geronticus papillosus*, *Tem., Pl. Col.* 304; *Jerd., B. Ind.* iii. p. 769; *Hume, Nests and Eggs Ind. B.* p. 633; *Murray, Vert. Zool., Sind*, p. 278; *Legge, B. Ceylon*, p. 1107; *Murray, Hdbk., Zool., &c., Sind*, p. 229.—The WARTY-HEADED IBIS.**

Head, nape, chin and throat nude, black; crown with a triangular patch of bright red papillæ extending in front in line with the eyes, and behind to the back of the head; neck and entire under surface fuscous brown, unglossed; back, scapulars and tertials the same, but glossed with purplish; upper tail coverts dark brown, slightly glossed with steel blue; under tail coverts glossed with bluish; wings glossy steel blue, mixed with purple; a large patch of white on the wing above the shoulder formed by the white of the innermost lesser wing coverts; bill plumbeous with a greenish tinge; irides orange red; legs and feet brick red.

*Length.*—30 inches; wing 15; tail 7·5; bill 6 to 7; tarsus 3.

*Hab.*—Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Central India, Khandeish, Guzerat, Concan and Deccan. Occurs on the Western Coast generally. A resident in Sind; breeds from July to September.

### Gen. *Graptocephalus*.—*Elliot*.

No warts on the back of the head.

**1369. *Graptocephalus Davisoni* (*Hume*), *Elliot, P. Z. S.* 1877, p. 490; *Hume and Dav., Str. F.* vi. p. 485; *Hume, Str. F.* viii. p. 114; *Oates, Str. F.* ix. p. 300; x. p. 244; *Oates, B. Br. Burm.* ii. p. 269. *Geronticus Davisoni*, *Hume, Str. F.* iii. p. 300. *Geronticus papillosus*, *apud***

*Oates, Str. F.* iii. p. 347. *Inocotis papillosus*, *apud Oates, Str. F.* v. p. 169. *Ibis Harmondi*, *Oust., Bull. Soc. Philom.*, 1877, p. 28.—**DAVISON'S BLACK IBIS.**

Head and a portion of the neck naked, the front of the head covered with small warts; remainder of neck, whole lower plumage, back, scapulars, and tertiaries dark brown; rump and upper tail coverts darker, with a greenish lustre; quills and tail glossy bluish black; lesser wing coverts next the body white, forming a wing spot; nude parts blackish brown; a white band round the neck; irides orange red; bill bluish; legs pale coral red. (*Oates.*)

*Length*.—30 inches; tail 7·7; wings 15·2; tarsus 3·2; bill from gape 6·2.

*Hab.*—The plains of Southern Pegu, between the Pegu and Sittang rivers, where it appears, as *Oates* says, to be a constant resident. It has also been observed in the southernmost parts of Tenasserim. Extends to the Malay peninsula, and is said to be found in Siam and Cochin-China. Occurs singly or in pairs; feeds on the banks of muddy streams and in marshes. Breeds in Pegu. Eggs, two in number, pale blue.

Gen. **Falcinellus**.—*Bech.*

Bill long and slender, more so than in *Threskiornis*: tarsus longer; 2nd and 3rd quills longest.



*Falcinellus igneus.* The Glossy Ibis.

**1370. *Falcinellus igneus* (Linn.),** *Ferd., B. Ind.* iii. p. 770; *Hume, Nests and Eggs, Ind. B.* p. 635; *Blyth, B. Burm.*, p. 158; *Elliot, P. Z. S.* 1877, p. 503; *Hume, Str. F.* viii. p. 114; *Doig, Str. F.* viii. p. 377;

*Oates, Str. F.* x. p. 245; *Murray, Vert. Zool. Sind*, p. 279. *Tantalus falcinellus*, *Linn., Syst. Nat.* i. p. 241. *Scolopax rufa*, *Scop. Ann.* i. p. 93. *Numenius igneus*, *S. G. Gmel., Nov. Comm. Petrop.* xv. p. 460, t. 18. *Plegadis falcinellus*, *Dresser, B. Eur.* vi. p. 335. pl.; *Legge, B. Ceylon*, p. 1109; *Oates, B. Br. Burm.* ii. p. 271.—The GLOSSY IBIS.

Head, on the crown and sides, deep greenish dark brown, glossed with metallic purple, the feathers lanceolate; neck, nape, chin and throat, also the back and breast, deep rich reddish brown or chestnut red; lower back, rump, wing coverts and tail dark green, with bronze and purple reflections; primaries dark brownish black, tinged with green; tertiaries dark red brown; legs blackish green, with a blue garter above the knee; claw of mid-toe scooped or hollow below, and forming a sharp edge on one side; irides brown; lores nude.

*Length*.—22 to 23 inches; wing 10·5 to 11; bill at front 6 to 6·5; tarsus 4·5. Birds of the year are dark brown, the feathers of the head, chin and throat margined with white or lineated; back greenish brown, very little glossed; under parts dusky.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Central India, Guzerat and the Deccan; also Ceylon and Burmah. Recorded also from Arracan. It is not known from the Concan, but possibly occurs there, being a bird essentially affecting paddy fields, marshes and jheels. Breeds in Sind.

## ORDER.—NATATORES.

Feet more or less fully webbed; tarsi compressed, generally short, except in the *Phanicopteridæ*; bill various; wings also variously developed. The first tribe of the order is *Lamellirostris*, or birds with thick depressed bills, usually covered with soft skin, the tip commonly called the "nail," above being horny; the edges of the bill are serrated, forming lamellar teeth, which serve as a sieve.

### Family, PHŒNICOPTERIDÆ.

Bill thick, rounded, rather compressed on the sides, suddenly bent downwards in the middle: tarsi and thighs long, the latter naked; tarsi scutellate.

### Gen. *Phœnicopterus*.—*Linn.*

Margin of bill lamellate and dentate; nostrils in a groove covered by membrane; neck very long; 1st and 2nd quill of wing longest; other characters as in the Family.

**1371. *Phœnicopterus antiquorum*** (*Tem.*), *Bodd., Tab. P. E.* 63; *Naum. Vogt.* t. 233; *Gould., B. Eur.* pl. 287. *Phœnicopterus roseus* (*Pall.*), *Ferd., B. Ind.* iii. p. 775, No. 944; *Hume, Str. F.* i. p. 257; *Murray, Hdbk., Zool., &c., Sind*, p. 230.—The FLAMINGO.



Plumage throughout of a rosy white in the adult bird; primaries and secondaries black; primary and greater wing coverts white, dark shafted and broadly tipped with black, rest of the wing coverts and tertiaries rosy red; axillaries and under wing coverts rosy red; bill rosy, broadly black at the tip; legs and feet rosy red.

*Length*.—48 to 54 inches; wing 16 to 16.5; tail 6; bill 4 to 4.12. Birds of the year have scarcely any rosy tinge, and the plumage, especially of the upper parts, is mixed with dusky.

*Hab*.—Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Central India, Rajputana, Kutch, Guzerat, Concan, Deccan, South India and Ceylon. Everywhere in flocks of thousands on all the lakes, rivers, &c., especially in Sind. Mr. Hume (*Str. F.* i. p. 257) truly describes them "as occurring in countless myriads, seen either massed upon the water, as huge rosy islands, or floating above it like a sunset cloud in all the large lakes of Sind. On taking flight, the exposure of the rosy upper and under wing coverts turns the mass into a gigantic brilliant rosy scarf, waving to and fro in mighty folds as it floats away." They are also common about the Kurrachee harbour, chiefly on the mud flats and in Clifton Bay; usually they are in large parties drawn up in line. When feeding they have their necks and heads bent down in such a position, that the upper mandible rests on the ground; with it they stir up the limpid ooze in search of animalculæ, minute crustacea, fish, &c., on which they live. Like the Cranes the Flamingoes also have sentinels posted to give warning of danger; their flesh is not considered good, but the Mohannas or fishermen caste on the Indus consider it palatable, the fishy taste being lost on their palates, owing to their principal diet being fish. The ancients considered it choice food, and the Egyptians, at the present day, are partial to the flesh. From the tongue they are said to extract an oil which they use for flavouring certain viands.

They have been found breeding at Fao in Mesopotamia; the nest is as curious as the structure of the bird, being a truncated cone, built entirely of stiff clayey mud, on which the parent bird sits either astride or with its long legs folded under it. Eggs, 2 in number, white, and very chalky.

**1372. *Phœnicopterus minor*, (Geoff. St. Hil.) Tem., P. C. 419; Schleg., De Dier. fig. 276; Ibis, 1869, pl. 15, 8; Hume, Str. F. i, p. 31; ii. p. 339; Murray, Hdbk., Zool., &c., Sind, p. 230; id. Vert., Zool. Sind., p. 280.—THE LESSER FLAMINGO.**

"In winter plumage the head, neck and the whole body above and below is a delicate pale rose colour; on the back little more than white, tinged with rosy; scapulars are almost white, with a pale rosy streak down the centre; quills black, except the tertials, which are like the scapulars, but slightly pinker; wing coverts pale rosy white, the lesser and median broadly centred at the tip with a bright rather pale cerise, and the legs and feet are a bright rose pink. In the breeding season the rosy tint is very much brighter, the

throat is *bright* rose colour, each of the feathers of the breast is broadly centred towards the tip with bright cerise; feathers of the upper portion of the back similarly centred, and over the broad rosy white scapulars a number of comparatively narrow, elongated, intensely cherry-coloured plumes have been thrown out; the whole visible portion of the secondary, lesser and median coverts have become the most brilliant cherry colour with only narrow white tips; lower tail coverts, flanks and vent feathers are bright rosy tinged with cherry colour, with only narrow white tips; the legs and feet too have become a deep but brilliant red; the basal portion of bill deep vinous red, the tip black, the intermediate portion bright crimson lake."

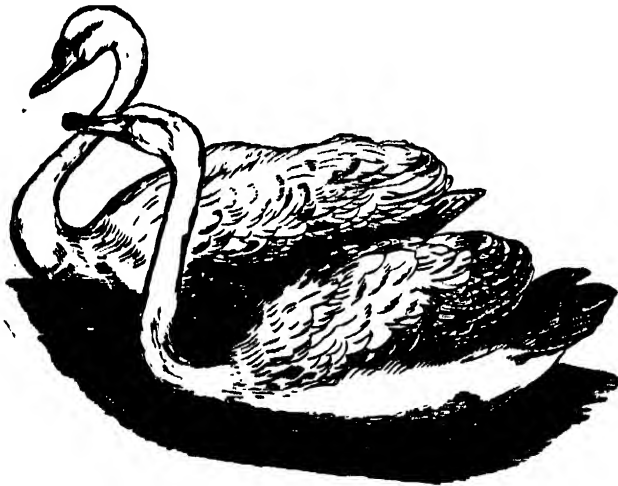
*Length*.—33 to 35 inches; wing 12·5 to 13·75; bill from gape 3·5 to 3·6; tail 4·5 to 4·75; tarsus 7·5 to 8·5.—(*Hume, Str. F.* i. 33.34.)

*Hab*.—Sind, Persia, Punjab, N.-W. Provinces, Rajputana, Guzerat and the Deccan.

Gray, in his *Handlist of Birds in the Br. Mus.*, gives West Africa, Cape of Good Hope and the Coast of the Red Sea as its other habitats. Occurs associated with *P. antiquorum*.

#### Family, CYGNIDÆ.—*Bp.*

Neck very long; legs moderate; front toes broadly webbed; hind toe not lobed; keel long; bill high at the base, with a fleshy or callous tubercle; cere extending to the eye; 2nd and 3rd quills of wing longest; tail short, rounded.



*Cygnus olor.* The Mute Swan.

**1373.** *Cygnus olor* (*Gm.*), *Bodd., Tab. P. E.* 913; *Naum. Vogt.* i. 29; *Gould, B. Eur.* pl. 354; *Str. F.* vii. pp. 99, 101, 106; *Murray, Hdbk., Zool., &c., Sind,* p. 231; *id., Vert., Zool. Sind,* p. 282.—THE MUTE SWAN.

Entire plumage white; callous tubercle at base of upper mandible; legs, feet and cere black; bill reddish orange, the edges and tip black; irides dark brown.

*Length*.—48 to 52 inches. The following are the measurements of the three specimens obtained by Mr. H. E. Watson given in Mr. Blanford's paper on Wild Swans in Sind (*Str. F.* vii 101):—

	No. 1.	No. 2.	No. 3.
Length from tip of bill to end of tail...	58' 5"	62' "	60' "
Expanse .....	78'	84'	82'
Closed wing... ..	22'	23'	...
Tail from vent .....	9'75	10'25	9'75
Bill from gape .....	3'75	3' 8	...
Tarsus measured on inner side.....	3' 8	4' 2	...

The female resembles the male in every particular, except that the callous tubercle is smaller.

This species was obtained on the Munchur Lake during an unusually severe winter in Sind, by Mr. H. E. Watson, Deputy Collector of Sehwan, shortly after I left the Lake in the same year (1878). In every instance, where the species has occurred, it was during an unusually severe winter. Mr. Hume, in his *Game Birds*, says—"It may be considered a pretty regular, though somewhat rare, cold weather visitant to the Peshawar and Hazara Districts, and an occasional straggler to the Kohat and Rawul Pindee Districts, and to the Trans-Indus portions of Sind.

It has occurred near Peshawar in 1857. In 1871, Captain Unwin obtained a specimen in the Rawul Pindee District. Dr. Stolickza in *J. A. S. B.*, 1872, p. 229, says—"While crossing the Runn of Cutch he noticed several swans but at too great a distance for it to be possible to form an idea as to the species the birds belonged to," "and from its occurrence in Sind," Mr. Hume says, "renders it not improbable that Dr. Stolickza was right."

Outside our limits this species has been seen in the Kabul river, near Jellalabad, and is known to visit Northern Afghanistan pretty regularly. Breeds in Western Turkistan.

Mr. Hume in his Tentative List and in *Str. F.* vii. pp. 107, 464, enters *Cygnus Bewicki*, in the List of the Birds of India, but as this entry as well as of *Cygnus musicus* and *Anser segetum* have been made on certain drawings by Hodgson and others, and there are no veritable records of their having been killed within our limits, I omit them from the Avifauna.

### Family, ANSERIDÆ.

Bill moderate, narrower in front than behind; keel elevated at the base, sloping to the tip; nail at point of bill horny and hard; legs moderate; knee bare; hind toe partially lobed; laminar teeth present.

**Sub-Family ANSERINÆ.**

Characters same as those of the Family.

**Gen. Anser.—Briss.**

Bill high at the base, rather long; lamina at edge wide and visible externally; nostrils in the nude cere, longitudinal.

**1374. *Anser cinereus*, Meyer, Naum. Vogt. t. 285; Gould, B. Eur. pl. 347; Jerd., B. Ind. iii. p. 779; Str. F. i. p. 258; iv. pp. 26, 197; vii. p. 494; viii. p. 421; Hume and Marsh., Game Birds of Ind. iii. p. 55; Murray, Hdbk., Zool., &c., Sind, p. 233; id., Vert. Zool., Sind, p. 283. (Hans, Sind.)—The GREY LAG GOOSE.**

Head, hind neck and nape greyish brown, the feathers of the latter slightly darker and forming a conspicuous line on the neck behind, in some uniform grey brown; chin, throat and breast on the upper part pale greyish brown; the breast below whitish, and barred on the sides with greyish; back and scapulars brown, the feathers margined at the tips with fulvous white, forming regular bars; greater wing coverts greyish brown, lesser slightly paler, both bordered with whitish; primaries white-shafted, the first three pale grey, the rest nearly dark brown; tail greyish, tipped with white. The plumage of this Goose is very variable. Of specimens I have, no two are alike. Mr. Hume also notices this fact and says—"In some the head and neck vary from pale ashy or earthy brown to dark clove brown; in most there is a mingled white and orange patch on the forehead; in some there is a similar spot at the base of the upper mandible on each side, the feathers of the head and cheeks are tinged with orange or rusty, and in most there is a small spot of white on the chin. In some specimens the breast and abdomen are closely blotched and mottled with black or blackish brown and pale rusty buff; in others the cap and back of the upper neck are conspicuously darker, as in the specimen before me, which has the entire breast a fulvous or soiled white, also the middle of the belly, while the flanks are brown and barred with fulvous."

Bill pinkish flesh colour, sometimes with an orange tinge; nail greyish white; irides greyish brown; legs livid fleshy.

*Length*.—30 to 32 inches; wing 17 to 18.5; tail 6; bill at front 2.4 to 2.8; tarsus 3 to 3.12.

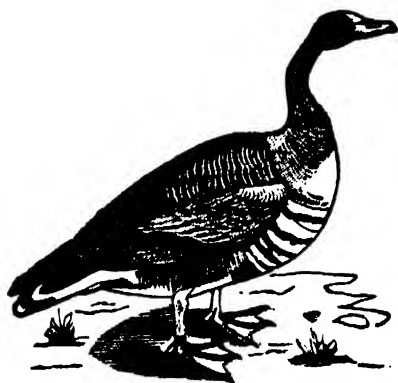
*Hab.*—Sind, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputna, Kutch and Guzerat. Occurs throughout Europe. About the Munchur Lake in Sind they are met with in large parties, also along the canals, and especially the river.

**1375. *Anser brachyrrhynchus* (Baillon), Jerd., B. Ind. iii. p. 780; Hume and Marsh., Game Birds iii. p. 71.—The PINK-FOOTED GOOSE.**

Head and upper part of neck brown; lower part of neck reddish ashy, body above brownish cinereous with white undulations; longest scapulars edged with white; upper tail coverts black; lesser and median coverts bluish ashy, edged with white; two first primaries bluish, others black; tail black; breast and upper abdomen ashy whitish; lower abdomen and under tail coverts pure white. Bill much smaller than in the last, fleshy red or purplish, the base and the nail black; feet pinkish red. (*Ferd.*)

*Length.*—27 to 29 inches; wing 15·9 to 17; tail 5·5; bill at front 1·75; tarsus 3; middle toe 3.

*Hab.*—This is an extremely rare bird in India. Hume records a picture of one which was got in the Punjab, and also a statement that Colonel Irby killed one at Alumbagh near Lucknow. He has seen a pair among Grey Lags on a sandbank in the Jumna, and an assurance has been given him by Col. Graham that it is not uncommon on the Brahmaputra in Assam. This is all we know of its occurrence in India. In Northern Europe it is common, and probably also Central Europe and Northern Asia.



*Anser albifrons.* The White-fronted Goose.

**1376.** *Anser albifrons*, *Gm., Naum. Vogt.* t. 289; *Ferd., B. Ind.* iii. p. 780; *Str. F. i.* p. 259; viii. p. 421; *Murray, Hdbk., Zool., &c., Sind;* *Hume and Marsh, Game Birds, Ind.* p. 73; *Murray, Vert. Zool., Sind,* p. 284.—The WHITE-FRONTED OR LAUGHING GOOSE.

Forehead white or yellowish white, followed by a narrow dark band; chin the same; head, hind neck and nape brownish grey, shaded in some specimens with reddish; throat pale greyish white, darker in some; breast and flanks pale brownish, with cross bars of black, paler and whitish on the lower breast, with broader black bars; back dark greyish brown, the feathers with pale reddish brown edges; upper and under tail coverts white; tail with the middle feathers dark grey, tipped with white; the lateral ones entirely white;

primaries ashy grey, dark at the tip; secondaries bluish black; tertiaries margined with dull white; greater and lesser wing coverts grey, edged with rufous; abdomen white; bill livid fleshy or purplish red, the middle of the upper mandible with an orange tinge; nail at tip white or yellowish white; legs and feet orange.

*Length*.—27 to 28 inches; wing 16 to 17; bill at front 1·7 to 1·9; tarsus 3.

*Hab.*—Sind, Beloochistan (Quetta), Persian Gulf (Bussorah), Afghanistan (Arghandab), Punjab, N.-W. Provinces and Oudh.

In Sind the White-fronted Goose is much more rare than the Grey Lag. Mr. Hume says "that about one bird of this species visits this empire, for every thousand of Grey Lags, or every five thousand of the Barred-headed Geese." In Egypt it is most abundant, also at Fao in Mesopotamia, and on the Caspian.

**1377. *Anser erythropus* (Linn.), *Newton, Ibis*, 2, p. 406; *Jerd., B. Ind.* iii. p. 781; *Hume and Marsh., Game Birds* iii. p. 77. *A. minutus*, *Naum. Vogt*, i. ?—The DWARF GOOSE.**

Top of head, forehead, throat, front of cheeks and the under and upper tail coverts white; rest of head, neck and crop grey; scapulars and back dark brown grey, with transverse lighter bands; primaries and upper wing coverts blue grey, lower the same as the back and edged with white; secondaries black; tail grey, margined with white at the tip and white at the base; abdomen black, bordered with white; flanks dark grey brown, each feather margined lighter. Bill orange; feet and legs red. (*Jerd.*)

*Length*.—22 inches; wing 15; tail 4·5

*Hab.*—N.-W. Provinces and Oudh as a rare winter visitor. Outside our limits it is found in Northern and Central Europe.

**1378. *Anser indicus* (Lath.), *Gould, C. B.* pl. 80; *Jerd., B. Ind.* iii. p. 782; *Str. F.* iv. p. 499; vii. p. 491; viii p. 421; *Murray, Hdbk., Zool., &c., Sind*, p. 234; *Hume and Marsh., Game Birds, Ind.* p. 81; *Murray, Vert. Zool., Sind*, p. 285. (*Raj-hans*, Hind, Sind).—The BARRED-HEADED GOOSE.**

Head and a broad line continued down the sides of the neck white, with a broad black band from behind the eye across the occiput, and a second one on the nape; chin and throat white; back of neck dark hair brown; front of neck the same, but rather paler and gradually passing into the ashy grey of the breast; upper back, scapulars, breast, upper abdomen and flanks in front ashy grey, the feathers margined with white and forming lunules of that colour; lower back, rump and wing coverts pale ashy grey; upper tail coverts, tip of tail feathers, lower abdomen, vent and under tail coverts white; axillaries pure ashy grey, feathers of the flanks behind the legs dark rufescent or snuff brown, margined at the tip with white; primaries white-shafted, the first four and all the primary coverts greyish, the rest and the tips of the first four as

well as all the secondaries dark brown ; wing coverts like the lower back and rump ; bill orange, with a greenish tinge at the base ; nail at the tip black ; legs bright orange ; bill at front 1·8 to 2.

*Length*.—27 to 28 inches ; wing 16·5 to 18·5 ; tarsus 2·8.

*Hab.*—Sind, Punjab, N.-W. Provinces, Oudh, Central Provinces, and Bengal. A winter visitant.

This is certainly the most abundant Goose in Sind, and during the winter may be met in flocks of thousands on the large lakes, and on the Indus. On the Munchur it simply swarms, and not unlike the two other species, *albifrons* and *cinereus*, feeds during the night and in the early morning till about 9 or 10 o'clock. They feed exclusively on tender shoots of grass, and do much damage to the sprouting corn crops, especially in the neighbourhood of the Munchur, also in Lower Sind. Taking Upper India (including Sind), Hume says—"This species enormously outnumbers all the other species of Geese put together." I think at least five of the Barred-heads visit India to every one of the Grey Lags, and as for all the rest of the Geese, they are apparently so rare, that when one comes to consider numbers, they are not worth speaking about. \* \* \* Their habits are similar to those of the Grey Lags. Where frequently disturbed they feed inland only at night ; where rarely molested they will be found feeding up to eight or nine in the morning and again long before sunset. Preferentially they feed in fields in the neighbourhood of the larger rivers, browsing on the young wheat, vetches, lentils, &c. They are not difficult to bag, especially in localities where they are not disturbed by shooting. Walking besides a pony, or bullock, one can always get within 35 or 40 yards of a flock, and bag at least a dozen birds with a couple of effective shots. In localities which have been frequently shot over the birds are very wary, and unless there is plenty of cover a buffalo or pony becomes a necessity." In such cases," as Mr. Hume says, "it is best to make sure of your one or two birds on the ground with the first shot, as you will seldom have time for more than one shot after they rise." Mr. Hume, in his *Game Birds of India*, gives many hints as to shooting geese and wild fowl generally. The habits of the Duck tribe and the various methods adopted for netting them are very interesting, and of much value to sportsmen generally.

### Family, ANATIDÆ.—*Vigors*.

Bill flat and broad, laminated at the sides ; food insects and tender aquatic plants, which they obtain in shallow muddy places.

### Sub-Family, PLECTROPTERINÆ.—*G. R. Gray*.

Bill long and broad, tip horny ; knee and above bare ; tarsi with squarish scales ; hind toe long ; wing with one or more spurs on the shoulder ; a fleshy caruncle at base of upper mandible ; plumage glossy black.

Gen. **Sarkidiornis**.—*Eyton*.

Characters those of the Sub-Family; 1st and 2nd primaries sub-equal and longest.

**1379. Sarkidiornis melanonotus**, *Penn. in Forst. Ind. Zool.* p. 21, pl. 11; *Newton, Str. F.* viii. p. 415. *Sarcidiornis melanonota*, *Ferd., B. Ind.* iii. p. 785; *Hume, Nests and Eggs Ind. B.* p. 636; *Blyth, B. Burm.* p. 165; *Hume and Marsh., Game Birds* iii. p. 91, pl.; *Legge, B. Ceylon*, p. 1063; *Oates, B. Br. Burm.* iii. p. 275; *Murray, Vert. Zool., Sind*, p. 286.—The COMB DUCK.

Top of the head and back of neck black, spotted with white, more so on the back of the neck; cheeks, sides and front of the neck white, with a few black spots; breast and entire under parts white; chin and throat white; back, scapulars, tertiaries and wing coverts glossy black, glossed with purple; upper tail coverts glossed greenish; primaries and secondaries black; the lesser wing coverts glossed with purplish green; tail black; bill of male with a fleshy protuberance; irides dark brown; bill black.

*Length*.—28 to 30 inches; wing 13 to 15; tail 6. Female is smaller, and less brightly coloured.

*Hab*.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Kattiawar, Guzerat, Concan and Deccan, South India and Ceylon; also British Burmah.

A straggler in Sind. Breeds in the N.-W. Provinces during July and August. In Ceylon it is said to breed from January to March, usually on trees in the proximity of large sheets of water.

**1380. Nettapus coromandelianus** (*Gmel.*), *Ferd., B. Ind.* iii. p. 786; *Blyth, B. Burm.* p. 165; *David et Oust. Ois. Chine.* p. 501; *Legge, B. Ceylon*, p. 1066; *Hume and Marsh., Game Birds* iii. p. 101, pl.; *Oates, B. Br. Burm.* ii. p. 272. *Anser coromandeliana*, *Gmel., Syst. Nat.* i. p. 522. *Nettapus coromandelicus* (*L.*), *Hume, Nests and Eggs, Ind. B.* p. 638. *Nettapus coromandus* (*L.*), *Hume, Str. F.* iii. p. 192.—The COTTON TEAL.

Forehead, crown and nape hair brown, remainder of the head, whole neck and lower plumage white; collar round the neck black in front, glossy green on hind neck; a second demi-collar from the breast upwards below this; under tail coverts dark brown mottled with white; upper plumage glossy green; the secondaries are broadly tipped with white and the primaries also, their basal halves are dark brown; upper tail coverts white, freckled with brown; tail brown; under wing coverts greenish black. The female has a line from the lores through the eye dusky black, surmounted by a dirty white supercilium; rest of the head, whole neck and the upper breast dull white



mottled with brown; lower plumage dull white; upper tail coverts white, freckled with brown. In winter the male is like the female, but has always the white patch on the primaries. Bill black; irides red.

*Length*.—13 inches; tail 3; wing 6·5; tarsus 1; bill from gape 1·1.

*Hab*.—Nearly throughout India, also Ceylon and Burmah, except the drier regions as Sind, Kutch, Rajputana. Breeds in July and August, in the holes of trees, laying from 8 to 10 eggs, of a delicate ivory white colour. They generally affect swamps, marshes, and inundated ponds and ditches.

### Sub-Family, TADORNINÆ (Anatinæ, Sw.)

Plumage rufous; bill flattened towards the tip, with horny termination; hind toe long and slightly lobed.

### *Dendrocygna*, Sw.—WHISTLING DUCKS.

Bill rather large, of uniform width; secondaries long, also the tarsi; 2nd, 3rd and 4th primaries sub-equal and longest.

**1381. *Dendrocygna Javanica*** (*Horsf.*), *Hume and Dav.*, *Str. F.* vi. p. 486; *Legge*, *B. Ceylon*, p. 1069; *Hume and Marsh.*, *Game Birds* iii. p. 109, pl.; *Oates*, *B. Br. Burm.* ii. p. 273; *Murray*, *Vert. Zool.*, *Sind*, p. 287. *Anas javanica*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 199. *Dendrocygna aswuree*, *Ferd.*, *B. Ind.* iii. p. 789. *Dendrocygna arcuata* (*Cuv.*), *apud Hume*, *Nests and Eggs Ind B.* p. 639; *Oates*, *Str. F.* v. p. 169.—THE LESSER WHISTLING TEAL.

Top of head and occiput dull wood brown, and a narrow streak of the same continued down the middle of the back of the neck from behind the nape; sides of the face and neck fulvous brown; chin and throat albescent; lower neck and breast yellowish chestnut, gradually passing into the light chestnut of the under surface of the body; vent and under tail coverts albescent; back and scapulars dusky brown, the feathers edged with dingy fulvous chestnut, forming lunules; upper tail coverts chestnut; tail brown, tipped slightly paler; primaries and secondaries black; greater coverts and tertiaries dusky brown; lesser and median coverts deep maroon; axillaries black; bill dusky brown, darker at the tip; irides deep brown; eyelids bright yellow to pale golden; legs plumbeous.

*Length*.—17·5 to 18 inches; wing 8 to 8·5; tail 2 to 2·12; bill at front 1·5; tarsus 1·75.

*Hab*.—Sind, Punjab, N.-W. Provinces and the Indian Peninsula generally, but not in the more arid tracts, where water is not abundant, as in the interior of Rajputana. According to Hume, there is scarcely any suitable locality within the limits of the Indian empire, including Burmah, Ceylon, the Andamans and Nicobars, in which this species does not occur either as a perma-

nent resident or a seasonal visitant. It is essentially a tree duck, and in the breeding season especially affects the larger pieces of water, in the vicinity of trees. At other times it is found in nearly every suitable piece of water. It nidificates on trees, making a nest of twigs, &c., or occupying old nests of Herons and Ibises. In Sind it has been found breeding in great numbers on the Eastern Narra, and I have taken a nest of 11 eggs at the One Tree Tank, six miles from Kurrachee. Mr. Doig, who took its eggs in the Narra, found 10 as the greatest number from any one nest. "The nests," he says, "were composed of green twigs, and in some instances of leaves of the large bulrush trodden down to make a platform." Mr. Hume (*Game Birds*) records instances of the curious fact of this species carrying its young in its feet from the nest to the water. Mr. Kemp in the Futtehpore District adds his testimony to the fact, having obtained an egg from off a narrow ridge where the bird was seen to carry it just before he shot it. Mr. Hume says—"He heard of their being seen flying down to the water with ducklings on their backs, and that twice he saw them carrying these in their claws. On one of these occasions, between 8 and 9 A. M., he saw a duck carry down her whole brood of seven, one at a time, from a hole in a huge mango tree to the water, she passing each time within three yards of his face.

**1382. *Dendrocygna fulva* (Gmel.), *Sclater and Salv.*, *P. Z. S.* 1876, p. 372; *Hume and Marsh.*, *Game Birds* iii. p. 119, pl.; *Oates, B. Br. Burm.* ii. p. 274. *Anas fulva*, *Gmel.*, *Syst. Nat.* i. p. 530. *Dendrocygna major*, *Ferd.*, *Madras Journal*, 1840, p. 218; *id.*, *Ill. Ind. Orn.* pl. xxiii.; *Hume, Str. F.* iii. p. 193.—THE LARGER WHISTLING TEAL.**

Top of head and sides of the face rufescent brown, slightly paler on the cheeks; chin and throat albescent, a broad ring or patch of white in the middle of the neck; a broad black line down the back of the neck from below the nape; back, scapulars, primaries, secondaries, tertials and greater wing coverts dark brown, the feathers of the back with rufescent or chestnut edging, forming lunules; lesser wing coverts dark maroon; breast yellowish chestnut, gradually passing into the light chestnut of the under parts of the body; vent, under and upper tail coverts white or fulvous white; tail dark brown; bill plumbeous; irides brown; legs and feet plumbeous.

*Length*.—20·5 to 21 inches; wing 9·25; tail 2·5 to 2·8; bill from gape 2 to 2·4; tarsus 2·25.

*Hab.*—Sind, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan and Deccan, also S. India and Ceylon in suitable localities; also Burmah.

#### Gen. *Casarca*.—*Bp*

Bill moderate; culmen with a knob at the base; nail at tip large; hind toe lobed; wing spurred; plumage from buffy orange to bright orange.

**1383. *Casarca rutila*, Pall., *Hist. d' Egypt.* t. x. p. 1; Gould, *B. Eur.* pl. 358; Jerd., *B. Ind.* iii. p. 791; Str. *F.* i. 260; iv. 198; Murray, *Hdbk., Zool., &c., Sind*; Hume, *Game Birds. Ind.* p. 123. Tadorna casarca, Dresser, *B. Eur.* vi. p. 461, pl.; Legge, *B. Ceylon*, p. 1070; Oates, *B. Br. Burm.* ii. p. 277. (Vern. Mungh, Sind).—THE RUDDY SHELLDRAKE OR BRAHMINY DUCK.**

*Male*.—Head, on the crown and sides buff, darkening on the nape and hind neck, and gradually passing into deep orange or orange fulvous on the upper back and breast; a seasonal glossy black band round the middle of the neck in males (not present in all specimens); chin buff; upper back, scapulars and breast in front deep orange brown, orange fulvous, or rufescent, the colour being variable; in some specimens the feathers are edged paler; lower back ochreous, the feathers finely vermiculated with black; rump black, also the upper tail coverts and tail, which have a greenish gloss; lower abdomen and under tail coverts deep chestnut; in females and in males out of season, and without the black neck collar, the entire under surface from the breast is pale chestnut or fulvous chestnut, sometimes with the feathers round the vent darkening into deeper chestnut; wing spurred at the bend; primaries dark brown; greater coverts and outer webs of secondaries glossy purplish green, forming a broad speculum; lesser and median covers white, sometimes with a buffish tinge; tertials like the back, some of the feathers finely vermiculated with brown at the tips; under wing coverts and axillaries white, also the edge of the wing.

The *female* wants the black collar at all seasons, and is generally duller in colour, the head being very pale buffy white; the crown and neck in some mouse grey; bill black; irides dark brown; legs black.

*Length*.—*Males*, 24·5 to 27 inches; wing 14·5 to 15·5; tail 5·5 to 6; tarsus 2 to 2·4; bill at gape 2.

*Hab*.—Sind, Persia, Beloochistan, Afghanistan, E. Turkistan, Punjab, N.-W. Provinces, Oudh, Nepaul, Bengal, Rajputana, Central India, Kutch, Guzerat, the Concans, Deccan and Southern India.

The Ruddy Shelldrake is a winter visitant to India. In Sind it is found on all the large lakes and brooks and along the Indus river in great numbers; and on the Munchur especially; like geese, large parties resort to the fields of sprouting wheat in the early morning and at night-fall, and do much damage.

They are extremely shy and wary birds, and as Mr. Reid, in *Game Birds*, remarks—“It will not only keep a sharp look-out on its own account, but will fly along the Jheel side before the gunner, uttering its warning note and put every bird on the *qui vive*.”

**1384. *Casarca scutulata* (P. L. Mull), Schlege., *Mus. P. B. Anseres*, p. 64. *Sarcidiornis leucopterus*, Blyth, *J. A. S. B.* xviii. p. 820. *Casarca***

leucoptera, *Jard., Contr. Orn.* p. 141, pl. 64; *Jerd., B. Ind.* iii. p. 793; *Blyth, B. Burm.* p. 165. *Anas scutulata*, *Hume and Marsh., Game Birds* iii. pp. 147. *Anas leucoptera*, *Oates, B. Br. Burm.* ii. p. 281.—THE WHITE-WINGED WOOD DUCK.

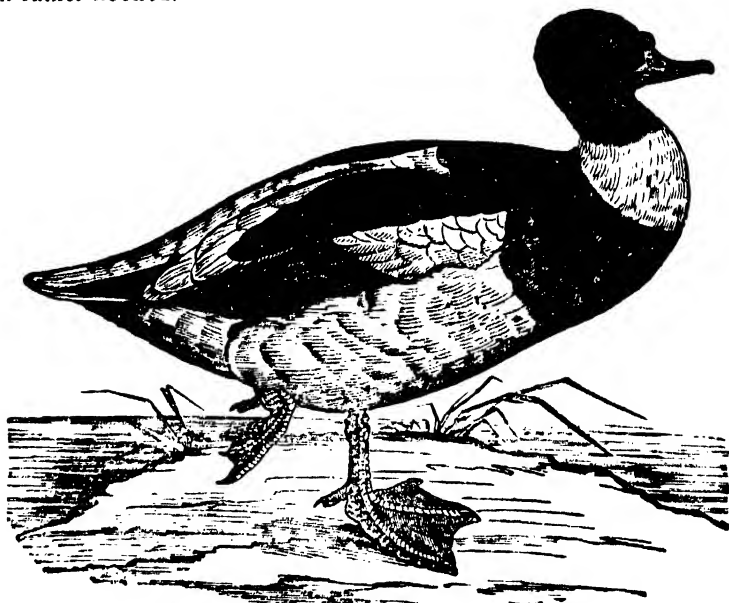
Head and neck white, profusely mottled with black; hind neck glossy black; remainder of the upper plumage blackish brown; shoulders and wing coverts white; greater coverts black; primaries dusky; secondaries slaty; tertiaries dusky, the outermost ones bordered with white and forming a white longitudinal line in the closed wing; breast glossy black; lower plumage dusky castaneous, dark brown on the flanks and under tail coverts; bill and legs black. (*Jerd.*)

*Length*.—28 inches; wing 15; tail 6; bill at front 3; tarsus 2.5; mid-toe 3.25

*Hab.*—Tenasserim at Tavoy and at Mergui. Oates says it occurs in Assam and in the hill tracts of Eastern Bengal, in the northern part of the Malay Peninsula and in Java.

Gen. **Tadorna**,—*Leach*.

Bill short, high at the base, and with a knob; wing tuberculated; nail at tip of bill rather hooked.



*Tadorna cornuta*, Gm. The Shelldrake.

**1385. *Tadorna cornuta* (Gm.),** *Syst. Nat.* i. p. 524; *Bodd., Tab. P. E.* 53; *Naum. Vogt.* t. 298; *Gould, B. Eur.* pl. 357; *Hume, Game Birds*, p. 136; *Murray, Vert. Zool., Sind*, pp. 289, 290. *Tadorna vulpanser* (*Fleming*), *Jerd., B. Ind.* iii. p. 794; *Murray, Hdbk., Zool., &c., Sind*, p. 235.—THE SHELLDRAKE OR BURROW DUCK.

Head, sides of the face, chin, throat, and about one-half of the neck all round deep black, with glossy green reflections; below this the neck all round is white, as are also the back, wing coverts, rump, upper tail coverts and tail, the latter tipped with black; a broad band of ferruginous or orange chestnut across the breast, meeting above on the foreback; under surface white, except a mesial band in the middle of the abdomen; primaries black; greater coverts forming the speculum, and outer webs of the secondaries glossy golden green; upper secondaries chestnut on their outer webs; tertiaries and scapulars black; bill blood-red, with a knob at the base of the upper mandible; nail black; bill deep red; irides brown; legs fleshy red.

*Length*.—23·25 inches; wing 12 to 13·5; tail 4·75 to 5·5; tarsus 2 to 2·3. Females average 20 to 22 inches in length, and are much duller in colour.

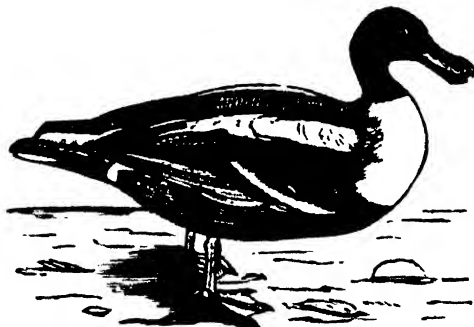
*Hab.*—Sind, Beloochistan, Persia, Afghanistan, E. Turkestan, Punjab, N.-W. Provinces, Oudh, Bengal, Kutch and Kattiawar Coast. Except in large lakes, the Sheldrake is only found on the sea-coast in the neighbourhood of the sea, which is its proper home.

### Sub-Family, ANATINÆ.

Hind toe small, not bordered by a membrane; bill even in width throughout, or wider at the tip; lamellæ numerous, fine and bristly.

#### Gen. *Spatula*.—*Boie*.

Bill longer than the head, narrow at the base, broad at the tip, shovel-like; nail small; lamellæ fine and bristly.



*Spatula clypeata*. The Shoveller.

**1386. *Spatula clypeata* (Linn.).** *Bodd. Tab. P. E.* pp. 971, 972; *Gould, B. Eur.* pl. 300; *Jerd., B. Ind.* iii. p. 796; *Str. F.* iv. p. 199; *Murray, Habk., Zool., &c., Sind*, p. 235; *id., Vert. Zool. Sind*, p. 290; *Hume and Marsh., Game Birds Ind.* p. 141. (*Vern., Alipat, Sind.*)—THE SHOVELLER.

*Male*.—Head and neck all round deep or dark brown with glossy green reflections; back brown; scapulars and breast white; rump and upper tail coverts glossy brown black; sides of the rump white; tail brown, the outer feathers white, the rest edged with white; primaries dusky brown, white

shafted; secondaries the same, their outer webs rich bright green and forming the speculum; lesser wing coverts pale blue; greater wing coverts dusky brown, tipped with white, forming a bar across the wing; tertials long and pointed, pale blue on their outer webs, purplish black on the inner ones, the tips of some of the elongated ones white; abdomen rich chestnut brown or brownish red; lower tail coverts black, glossed greenish; flanks chestnut brown, the feathers finely vermiculated with dark brown; bill black; legs orange; irides yellow.

*Length*.—19 to 20 inches; wing 9 to 10; tail 3·5 to 4; tarsus 1·2 to 1·4; bill from gape 2·9 to 3.

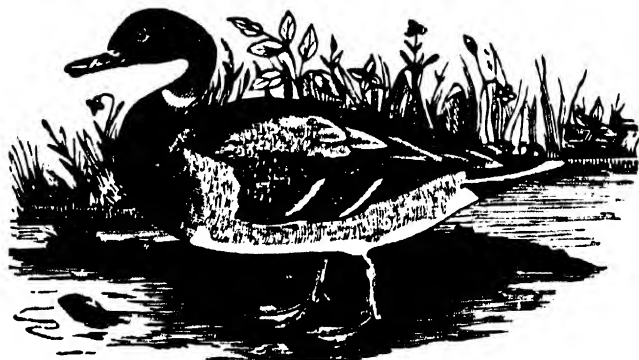
The *female* is slightly smaller, averaging 19 inches in length at the outside; wing 8 to 9. The head is pale reddish brown, with dusky shaft-streaks; breast pale brownish rufous, with dusky brown spots; back dusky brown, the edges and tips of the feathers paler and rufous white; lesser wing coverts tinged with pale blue; speculum green, and a white bar across the wing as in the male.

*Hab.*—Sind, Belochistan, Persia, Afghanistan, Nepaul, Cashmere, Eastern Turkestan, Punjab, N-W. Provinces and Oudh, Bengal, Central India, Rajputana, Kutch, Guzerat, Concan, Deccan, South India, and Ceylon.

Winter visitors to India, affecting all the lakes, marshes, ponds, &c., feeding on worms, larvæ, tadpoles, seeds, and young shoots of aquatic plants. They are not naturally shy, as in village ponds they are frequently seen dabbling about, or standing in the shallow edge of ponds, while the inhabitants are drawing water or bathing.

#### Gen. *Anas*, Linn.

Bill slightly longer than the head, of nearly uniform width throughout; tertials long and pointed; tail wedge-shaped; nostrils near the base of the bill; middle tail feather curled.



*Anas boscas*. The Mallard.

**1387.** *Anas boscas* (Linn.), *Bodd. P. E.* pp. 776, 777; *Gould, B. Eur.* pl. 361; *Yerd., B. Ind.* iii. p. 798; *Str. F.* i. p. 261; iv. p. 199; *Murray,*

*Habdk. Zool., &c., Sind*, p. 235; *id., Vert. Zool. Sind*, pp. 291, 292; *Hume and Marsh., Game Birds Ind.* p. 151. (*Vern. Nirojī, Sind*).—The MALLARD.

*Male*.—Head and upper half of neck rich dark metallic glossy green, succeeded by a white ring; lower down on the back of the neck greyish chestnut brown, with fine transverse greyish waved lines; back above or mantle chestnut brown, the feathers margined slightly paler; scapulars greyish white, the feathers finely marked with transverse wavy brown lines, the outermost ones chestnut; rump and upper tail coverts blackish green, the sides of the former greyish white, finely vermiculated with brownish; primaries greyish brown, also the secondaries, the outer webs of which are rich shining purple, margined by a velvety black band and tipped with white, the speculum formed by the shining metallic purple patch is bounded on each side with a bar of black and white; tail with the four middle feathers velvety black, glossed with greenish, and curled upwards, the rest greyish brown, bordered with white; lower neck and breast deep chestnut; rest of lower parts greyish white, tinged in some specimens with dull yellowish, and marked with close-set transverse undulating brown lines, indistinct in many, and in others strongly marked; under tail coverts velvety black; bill dingy olive, greenish at the tip; nail at the tip black; irides brown; legs and feet reddish orange to vermillion.

*Length*.—22·5 to 24·5 inches; wing 10·75 to 11; tail 4·2 to 4·8; tarsus 1·6 to 1·9. The *female* is smaller, averaging 21 inches in length.

*Hab*.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, the Concans, and a straggler in the Deccan.

**1388. *Anas pæcilorhyncha*, Forst., *Ind. Zool.* p. 23, pl. 13; *Ferd., B. Ind.* iii, p. 799; *Hume, Nests and Eggs Ind. B.* p. 643; *Blyth, B. Burm.* p. 165; *Hume and Marsh., Game Birds* iii, p. 165, pl.; *Legge, B. Ceylon* p. 1073; *Murray, Vert. Zool. Sind*, p. 292; *Oates, B. Br. Burm.* ii, p. 282.—The SPOTTED BILLED DUCK.**

Top of head to the nape behind dark sepia brown, also a line from the base of the upper mandible through the eye, ending in a point behind; supercilium, sides of the face and neck dingy fulvous, minutely speckled with brown; lower neck, breast and abdomen the same, the brown spots larger than on the upper neck, and increasing in size on the breast, abdomen and flanks; chin and throat unspotted fulvous; upper back, scapulars and lesser and median wing coverts hair brown; lower back and rump black; primaries deep brown; secondaries brown on their inner webs; speculum on their outer webs, rich emerald glossy green, tipped with black, the black tips of the

innermost narrowly edged with white; greater wing coverts sepia, brown at base, with a subterminal white band and tipped with black; tertiaries white on their outer webs and hair brown on their inner; tail deep brown, the central feathers darker; vent and under tail coverts nearly black; under wing coverts white; bill black, with a spot of red at the base, and yellow at the tip; legs and feet vermilion red; irides deep brown.

*Length*.—23·5 to 25·9; wing 10·5 to 11; tail 4·75 to 5·75; tarsus 1·85 to 1·93; bill from gape 2·5 to 2·75. Females are slightly smaller.

*Hab*.—A permanent resident in India. Breeds in Sind and the Punjab. Found in large numbers in Sind, Beloochistan, Persia, the drier parts of the Punjab and Rajputana, also in the N.-W. and Central Provinces, Oudh, Kutch, Guzerat and the Deccan.

Affects large lakes, ponds, brushy or weedy tanks, and often the banks of rivers, feeding on worms, molluscs, insects, larvæ, young shoots of grass, &c. Mr. Hume says (*Game B.* iii. p. 168) "that the breeding season of this duck varies a great deal with locality;" in the N.-W. Provinces and Oudh, also the eastern portions of Rajputana and the Punjab, July, August and September are the months; in Guzerat, October. In Sind Mr. Doig obtained eggs at the latter end of April and May on a small island covered with long grass in the middle of the Narra.

**1389. *Anas caryophyllacea*, Lath., Ind. Orn. ii. p. 866; *Ferd.*, *B. Ind.* ii. p. 800; *Hume, Nests and Eggs Ind. B.* p. 644; *Blyth, B. Burm.* p. 165. *Rhodonessa caryophyllacea*, *Hume, Str. F.* viii. p. 115; *Hume and Marsh., Game Birds* iii. p. 173, pl.; *Oates, B. Br. Burm.* ii. p. 284.—**  
The PINK-HEADED DUCK.

Whole head, sides and back of the neck rosy pink; entire front of neck, lower plumage, back, rump, upper tail coverts, tail, upper wing coverts, scapulars and tertiaries dark glossy brown; secondaries salmon colour, forming a speculum; primaries brownish salmon colour, paler on the inner webs; edge of wing broadly whitish; under wing coverts pinkish white. Bill reddish white rosy at base and faintly bluish at tip; irides orange red; legs and feet blackish, tinged with red.

*Length*.—23 inches; tail 4·5; wing 11; tarsus 2; bill at front 2·3.

*Hab*.—Arracan, part of the Indian Peninsula and Assam. Breeds during June and July in swampy places. Eggs 5 to 10.

#### Gen. *Chaulelasmus*.—Gray.

Bill as long as the head, of uniform width, except towards the tip, where it is slightly narrowed; nail small; lamellæ projecting and delicate; wings and tail long; central tail feathers rather elongate.





*Chaulelasmus streperus*. The Gadwall.

**1390. *Chaulelasmus streperus* (Linn.), Bodd., *Tab. Pl. Enl.* p. 958; Gould, *B. Eur.* pl. 366; Jerd., *B. Ind.* iii. p. 802; Dresser, *B. Eur.* vi. p. 487, pl.; Hume, *Str. F.* viii. p. 115; Scully, *t. c.*, p. 362; Hume and Marsh., *Game Birds* iii, p. 181, pl.; Murray, *Vert. Zool. Sind.*, p. 293; Oates, *B. Br. Burm.* ii. p. 283. *Anas strepera*, Linn., *Syst. Nat.* i. p. 200; Blyth, *B. Burm.* p. 166.—The GADWALL.**

*Male*.—Head and neck fulvous or greyish white, freckled with brown; crown of the head with a slight yellowish tinge; chin and throat greyish white finely speckled with brown; breast brown, with white crescent-shaped lines, on each feather; abdomen white, minutely speckled with greyish brown; the flanks variegated with undulations of brown and white; back above clove brown, with narrow crescentic undulations; scapulars with narrow undulations of brown and white; rump and upper tail coverts bluish black, with a purplish gloss; lower tail coverts glossy black, tinged with green; tail brownish grey, the edge of the feathers paler or fulvous, the two central feathers pointed; primaries dark brown; secondaries nearly black; the speculum a tri-coloured bar of purple red, black and white, except the four first feathers, which are grey at base and black at the tip; tertials brownish grey; greater wing coverts glossy black; lesser wing coverts grey, marbled with yellowish or fulvous white; median coverts rich chestnut brown, varied in some with orange brown, the tips of the feathers nearest to the speculum broadly bordered with black; bill brownish black or dusky leaden, tinged with reddish beneath; irides dark brown; legs pale orange.

*Length*.—19·5 to 21·5; wing 10·75 to 11·5; tail 3·9 to 4·2.

The *female* is smaller, has a light superciliary streak; the head on the crown is black mixed with greyish white; sides of the face fulvous white with brownish streaks; neck in front spotted with dark brown, and marked on the breast with crescentic bands of dark and pale brown; chin and throat white; abdomen white; back deep dusky brown, the feathers edged with buff; lesser wing coverts greyish brown, edged paler; speculum dull white; tail dark brown, marbled with pale buff, brown and white.

*Hab.*—Central and South Europe, and nearly throughout India ; found in Sind, Beloochistan, Afghanistan, and Persia ; also in the Punjab, N.-W. and Central Provinces, Oudh, Bengal, Central India, Kutch, Guzerat, the Concan and Deccan ; recorded also from Nepaul, Gilgit, and E. Turkestan ; it is also met with on the Continent of Europe, in Spain and Italy, also in Iceland and Siberia, as well as in the northern parts of Africa and India generally. In Sind it is numerous on the lakes, dhunds, &c., during winter, and especially on the Munchur, arriving about the middle of November.

Gadwall are considered excellent for the table, especially during the first two months of their arrival, when they usually feed on rice and young shoots of the sprouting wheat crops. Later on they affect the jheels and feed on crustaceans and fry of fish, and though then rather fishy in taste, the flesh is not despised when better game is not to be had. The localities preferred by the Gadwall after dusk are generally lakes, jheels and ponds covered with long herbage, but during the day it frequents open water, as the broads of the Indus.

### 1391. *Chaulelasmus rufiventris*, *Sp. Nov.*

*Male.*—General colour and markings of *C. streperus*, but the head is a dark rufous brown, and has a short silky occipital crest ; sides of the head glossed with a dull metallic green ; middle of abdomen everywhere to the vent covered with transverse undulations continuous with those on the flanks and sides, leaving no albescent space along the middle as in *streperus* ; thighs with similar, but faint undulating lines ; vent and under tail coverts rich rufous brown tinged with purplish. Bill as in *C. streperus*, but tinged yellowish on the lower mandible ; irides reddish brown ; legs and feet dull orange.

*Length of two Males.*—18·7 and 19 inches respectively ; wing 10·6 and 10·7 ; tarsus 1·4 ; bill at gape 1·87.

*Hab.*—Nari Base (Beloochistan) and Sylhet. (*Pennock.*)

These specimens were sent to me by Mr. Francis Pennock in January 1886 for identification. They were compared with the skins of 13 males, but in none of them is there a trace or even a tinge of rufous on the vent, which is the chief characteristic of this species, which I provisionally name as above. The female is not known.

1392. *Chaulelasmus angustirostris* (*Menetries*), *Bp. F. Ital.* t. 47, i., 2 ; *Gould, B. Eur.* pl. 373 ; *Str. F.* i. p. 262 ; iii. p. 273 ; vii. pp. 493, 523 ; *Murray, Hdbk., Zool., &c., Sind*, p. 235 ; *Hume, Game B. Ind.* p. 237 ; *Murray, Vert. Zool. Sind*, p. 294.—THE MARBLED TEAL.

“The male has the forehead, crown, occiput, and nape brownish white, with numerous narrow, close-set, wavy, irregular, dark brown bars, which become more speckly on the occiput, where also the ground colour is a more rufescent brown ; feathers immediately round the eye very dark brown ; a broad irre-

gular stripe over the eye, and a large patch on the side of the head behind the eyes, moderately dark brown, shading into the very dark brown immediately surrounding the eyes; the whole space between the sides of the upper mandible and the dark feathers surrounding the eye, the whole sides of the head below the dark eye and ear patch, the whole chin, throat and front of the neck, slight greyish or brownish white, very narrowly, regularly and closely streaked with brown; the lower parts a slightly brownish white; the breast feathers with greyish brown subterminal transverse bars, mostly more or less concealed by the pale tipplings of the superincumbent feathers, and only clearly seen when the feathers are lifted; the sides and flanks similar, but the subterminal bars much broader, and some of the flank feathers with several bars; the vent feathers and lower tail coverts, generally, with a slightly more rufescent tinge, and with two or more narrow, widely separated transverse brown bars; the tibial plumes browner, and with numerous narrow closely-set but ill-marked transverse brown bars; the abdomen more or less obsoletely mottled with very pale grey brown, which on lifting the feathers is found to arise from more or less faint, irregular, transverse, subterminal, brownish bars.

"The barrings above described are very much more marked in some specimens than in others; in some in fact they are almost entirely obsolete on the abdomen, and can hardly be traced.

"The upper back greyish brown, the feathers with a subterminal richer brown bar; scapulars brown, each feather with a yellowish white terminal spot, and of a much richer brown, the longer ones especially, just above the spot; the tertiaries and secondary greater coverts are greyish brown, the former obsoletely barred paler; the secondaries are pale grey; the primaries, their greater coverts, and the winglet pale slaty, the primaries with a silvery grey tinge on the outer webs towards the tips; the inner webs pale grey brown, except towards the tips, where they are much darker, and where the shafts also are conspicuously darker; the middle back, rump, and upper tail coverts the same grey brown as the upper part of the back; the feathers of the middle back narrowly and obscurely tipped with yellowish white, those of the rump and upper tail coverts more broadly and conspicuously so, and with a subterminal dark brown spot; the longest of the upper tail coverts are very broadly and conspicuously so tipped, and have a subterminal dark band; the tail feathers pale grey brown, broadly tipped, and narrowly margined with yellowish white; the two central tail feathers darker on the inner webs and dark shafted, and the lateral tail feathers paling as they recede from the centre.

"The female is similar, but smaller, with the eye patch and generally all the markings and tints duller and less conspicuous.

"The legs and feet are dusky olive or dark horny brown; bill bluish grey, black on culmen and tip, or dusky, bounded at the margins of the feathers of the forehead and cheeks with a pale, leaden blue line continued along the

margin of both mandibles to near the tip, and a spot of the same colour just above the nail; the irides are brown.

"The dimensions of this species are as follows:—

"*Male*.—*Length* 18·3 to 19; *expanse* 28·5 to 29·5; *tail from vent* 3·6 to 4; *wing* 8·1 to 8·5; *wings when closed reach to within* 0·7 to 1·5 of end of tail; *bill at front, including nail*, 1·77 to 1·85; *tarsus* 1·44 to 1·52; *weight* 1·3 oz. to 1·5 oz.

"*Female*.—*Length*, 16·9 to 17·5; *expanse* 27 to 28; *tail from vent* 2·8 to 3·7; *wing* 7·9 to 8·1; *wings when closed reach to within from* 0·5 to 1 of end of tail; *bill at front* 0·6 to 0·75; *tarsus* 1·4 to 1·5; *weight* 1 lb. to 1 lb. 3 oz." —(*Str. F.* i. p. 562.)

*Hab.*—Sind, Beloochistan, Persia, S. Afghanistan, Lower Punjab, N.-W. Provinces, Oudh and Bengal; extremely abundant after October; much sought for the table. Feeds chiefly on leaves, roots, fresh water molluscs, &c.

Gen. **Dafila** (*Leach*), *Gray, Gen. Birds*, iii. p. 615.

Tail with the central feathers narrow and much lengthened beyond the rest; neck long; bill elevated at the base, of nearly uniform width; 1st primary of wing longest.



*Dafila acuta*. The Pintail.

1393. ***Dafila acuta*** (*Linn.*), *Ferd.*, *B. Ind.* iii. p. 803; *Dresser, B. Eur.* vi. p. 531, pl.; *Hume, Str. F.* iii. p. 193; *Scully, Str. F.* iv. p. 200; *id.*, *Str. F.* viii. p. 363; *Hume and Marsh., Game Birds* iii. p. 189, pl.; *Oates, Str. F.* x. p. 245; *Murray, Vert. Zool., Sind*, p. 297; *Oates, B. Br. Burm.* ii. p. 279; *Linn., Syst. Nat.* i. p. 202; *Blyth, B. Burm.* p. 166; *Legge, B. Ceylon*, p. 1076.—THE PINTAIL.

*Male*.—Entire head, face, chin and throat umber brown, the feathers on the crown slightly darker and with a ferruginous tinge; back of the neck dark brown, nearly black; lower neck, breast and abdomen white; a white line running up on each side of the neck to the occiput; back, sides of the breast and flanks marked with transverse undulations of black and white; upper tail coverts cinereous or pale fulvous brown; under tail coverts deep velvet black; tail with the central feathers black, much elongated, and glossed with greenish, the others dusky brown and margined with white; primaries dusky greyish brown, the shafts much paler; secondaries dusky brown on their inner webs, their outer webs forming the speculum, dark greenish bronze, edged with black and tipped broadly white; upper part of the speculum edged with pale ferruginous; tips of the greater coverts, like the lesser and median coverts, are dusky brown; scapulars black, edged with yellowish; tertiaries long and pointed, deep black and edged with whitish; bill black, with a bluish tinge on the sides of the upper mandible; legs and feet slaty or blackish grey; irides dark brown.

*Length*.—22 to 29 inches; wing 10·3 to 11·75; tail 7·5 to 8; bill 2 to 2·45.

*Females*.—Smaller. *Length*.—20 to 22·5; wing 9·3 to 10.

*Female*.—Forehead and crown, also back of the head, nape and neck dark brown, the feathers with fulvous edgings; sides of the face, chin, throat and foreneck fulvous with brown spots and streaks, which become longer and darker on the lower neck; breast and the lower parts fulvous with obscure crescentic brownish markings on the breast, flanks and sides of the rump and large spots on the lower abdomen; back and scapulars dark brown, with lunate or crescentic markings of white and pale buff about the middle of each feather, and edged with whitish; greater and lesser wing coverts dusky brown, with margins and tips of white; primaries a shade lighter; speculum brownish bronze, unglossed, the tips of the feathers white; tertiaries dusky brown, margined with white; tail long, pointed, dark brown, with imperfect bars and streaks of white or yellowish white; under tail coverts fulvous white, with brown spots.

*Hab*.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Kutch, Concan, Deccan, Guzerat, Central and Southern India and Ceylon. Hume says—"There is no district in the Empire, from Ceylon to Kashmir, and from Kashmir to Sadya, Munipoor and Moulmein, where the Pintail does not occur in greater or less abundance except in south Tenasserim."

The Pintail affects the large broads or dhunds and lakes, and is seldom seen except in large parties. It is held in much esteem for the table, and for this purpose is netted in great numbers with the Gadwall and other water birds. On the Munchur Lake the fowlers net from 100 to 200 daily, and a sportsman in suitable localities could obtain two or three dozens at least as a

good day's sport, besides other game. Hume, like myself, thinks that on the whole, next to the Mallard, the Pintail is the best duck for the table in India, the Gadwall ranking third.

Gen. **Mareca**, *Steph.*, *Gray*, *Gen. B.* iii. p. 614.

Bill uniform in width; laminæ prominent; first and second quills of wing longest; tail short, cuneate; hind toe small.



*Mareca penelope*. The Wigeon.

**1394. *Mareca penelope* (Linn.),** *Bodd. Tab. Pl. Enl.* p. 825; *Gould, B. Eur.* pl. 359; *Ferd., B. Ind.* iii. p. 804; *Dresser, B. Eur.* vi. p. 541, pl.; *Hume, Str. F.* i. p. 61; iv. p. 30; vii. p. 494; *Hume and Marsh., Game Birds*, iii. p. 198, pl.; *Hume, Str. F.* viii. p. 115; x. p. 245 (note); *Murray, Vert. Zool., Sind*, p. 299; *Oates, B. Br. Burm.* p. 278. *Anas penelope*, *Linn., Syst. Nat.* i. p. 202; *Blyth, B. Burm.* p. 166.—The WIGEON.

*Male*.—Forehead and crown creamy yellow, remainder of head and neck rich chestnut; cheeks speckled with black, also a speckled band down the middle of the throat in some; nape narrowly barred with black and pale reddish white; chin and throat black; lower neck and breast vinaceous red, lightest in front, darkest on the sides; abdomen white, the flanks with transverse undulating lines of black and white; under tail coverts black, with a greenish gloss; tail blackish grey; back minutely barred with transverse undulating lines of black and white; scapulars black, edged with white; wing coverts white, the greater ones with velvet black tips; speculum glossy green, bounded above and below with black; bill plumbeous, the base black; legs and feet plumbeous or brown; irides red brown.

*Length*.—19 to 19·5; wing 10 to 10·5; tail 4 to 4·5; bill 1·7 to 1·82. *Females* are smaller; *length* 17·5 to 19; wing 9·3 to 8·0 inches; tail 3·5 to 5. In colouring the female has the head and neck fulvous brown, speckled with dusky; upper parts dusky or deep brown the feathers with reddish edges; speculum without the green gloss; feathers of the flanks rufous brown, tipped with ashy.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal and throughout Western and Central India, rare in Southern India and Burmah, and not yet recorded from Ceylon. In Kattia-war, Rajputana, the Deccan and Concan it is not uncommon during the winter months. It is considered excellent eating for the first two months after arrival, but after this the flesh is said to become of a muddy flavour and unpalatable.

Gen. *Querquedula*, *Steph., Gray, Gen. B.* iii. p. 616.

Bill of uniform width, as long as the head, and slightly raised at the base; nail horny, hooked and narrow; lamellæ not apparent; wings long, second quill longest; secondaries long and pointed; tail wedge-shaped.

**1395. *Querquedula crecca* (Linn.),** *Bod. Tab. P. E.* p. 946; *Gould, B. Eur.* pl. 364; *Ferd., B. Ind.* iii. p. 806; *Dresser, B. Eur.* vi. p. 507, pl.; *Murray, Hdbk., Zool., &c., Sind,* p. 235; *Oates, B. Br. Burm.* ii. p. 285. *Anas crecca*, *Linn., Syst. Nat.* i. p. 204; *Legge, B. Ceylon,* p. 1083; *Hume, Game Birds Ind.* iii. p. 206. (*Kardo*, Sind; *Moorghabi*, Hind.)—THE COMMON TEAL.

Forehead, crown, face, cheeks, throat and upper neck in front rich chestnut brown; chin black; a narrow dark line round the base of the bill, followed by a white or buffy one on the side, which meets a similar coloured superciliary stripe, and another under the eye; behind the eye, between the hind superciliary and lower eye-streak is a broad glossy green, or dark green patch, which meets on the back of the neck; breast rufescent or white, tinged with reddish and spotted with black; upper abdomen white; lower abdomen in some minutely barred with brownish; flanks barred with brown or blackish brown; upper back and scapulars marked with undulating white and black transverse bars; lower back dark brown, with faint traces only of paler transverse bars; tail hair brown or dusky brown, the feathers edged with white; under tail coverts black, the feathers on the sides creamy yellow; primaries dusky brown, edged on their outer webs and tipped darker; first six secondaries velvet black on their outer webs; next four or five forming the speculum glossy green, and followed by the black outer web of the first tertial; lesser and median coverts dusky or greenish brown; greater coverts the same and tipped with white or yellowish white, forming a border to the speculum above; bill black, or brownish black; irides brown; legs and feet greyish or plumbeous.

*Length.*—14·5 to 15·75 inches; wing 7 to 8; tail 2·9 to 3·5.

The female has the head, neck and upper part dusky brown; the feathers edged with white or fulvous white on the head and neck and lunated on the back; speculum as in the male, but slightly duller; chin and throat white, with black spots; breast and flanks white and spotted with dark brown; abdomen white; under tail coverts with brown streaks.

*Length.*—13·5 to 14·7 inches; with a wing of 6·5 to 7·5.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N. W and Central Provinces, Rajputana, Kutch and throughout India and Burmah.

Abundant wherever it occurs, frequenting tanks, rivers, ponds and jheels, &c.

**1396. *Querquedula circia* (Linn.),** *Jerd., B. Ind.* iii. p. 807; *Dresser, B. Eur.* vi. p. 513, pl.; *Hume, Nests and Eggs*, p. 644; *Scully, Str. F.* iv. p. 201; *Hume and Marsh., Game Birds* iii. p. 215, pl.; *Bingham, Str. F.* ix. p. 198; *Murray, Vert. Zool., Sind*, p. 301; *Oates, B. Br. Burm.* ii. p. 286. *Anas circia*, Linn., *Syst. Nat.* i. p. 204; *Blyth, B. Burm.*, p. 166; *Legge, B. Ceylon*, p. 1080.—The GARGANEY TEAL.



*Querquedula circia.* The Garganey or Blue-winged Teal.

*Male.*—Forehead purplish brown, finely streaked with white; crown of the head, occiput, nape and a line half way down the back of the neck dark amber or blackish brown, bounded on each side by a white superciliary streak, which extends to the sides of the neck; face, sides of the neck, cheeks, throat and neck chestnut brown, the feathers with white mesial streaks; chin black; breast and upper abdomen yellowish brown, tinged in some specimens with ferruginous, and with broad crescentic dark brown markings; lower abdomen white or yellowish white, with, in some specimens, transverse, dusky striæ behind; flanks with transverse undulations of black and white; axillaries white with black bases; back brownish black, the feathers edged with yellowish brown; primaries dark brown on their outer webs and tips, pale wood brown on their inner webs, in some specimens narrowly edged with whitish; wing spot on outer web of secondaries dull green, slightly glossed and tipped with white, the white tips forming the second bar across the wing; greater coverts ashy grey or bluish ashy, broadly tipped with white; lesser and median coverts ashy grey, or bluish ashy; scapulars long and lanceolate, black, with a mesial white shaft, and narrowly edged greyish white or white; tertiaries dusky brown, edged with white on their outer webs; rump and upper tail coverts dark brown, with bars of yellowish white; tail dark brown, the feathers edged



with yellowish or fulvous white; under tail coverts yellowish white with black spots; bill black above, brownish on the lower mandible; irides brown; legs and feet greenish grey or plumbeous.

*Length*.—15·5 to 16·5 inches; wing 7·2 to 8; tail 3·2 to 3·5; bill 1·75 to 1·85.

The *female* has the chin and throat white; head on the crown brown with spots and streaks of a darker shade; back of neck brown, the feathers edged with white; eye-streak faint; speculum dull and indistinct, bordered above and below with white; breasts and abdomen greyish white, spotted with brown.

*Length*.—14·5 to 15 inches, with a wing of from 7 to 7·5.

*Hab*.—The same as *Q. crecca*.

Not found in as great numbers as *Q. crecca*, affects the same situations, and is considered excellent for the table. It is chiefly a nocturnal feeder, concealing itself in the jheels and dhunds, among the high grass, during the day; when disturbed it usually returns to the same spot. Hume says "that at nights they come in some parts of the country in such crowds into paddy fields as to destroy acres of crop at one visit; their food, like *Q. crecca*, is chiefly vegetable, as tender shoots and leaves of water plants, seeds, bulbs, &c., but on the sea coasts, especially the Sind and Mekran Coast, where they are frequently found in some numbers, crustacea, slugs, fry of fish and algæ form their diet."



*Querquedula formosa*. The Clucking Teal.

**1397. *Querquedula formosa*, Georgi., *Act. Stoc'* 1779, t. i.; *Schl. f.* t. 82, *B.* *Querquedula glocitans* (*Pall.*), *Ferd.*, *B. Am.* iii. p. 808; *Hume, Game Birds Ind.* iii. p. 225.—The CLUCKING TEAL.**

"*Male*.—Forehead, top of head and occiput rich purple brown, bounded by a narrow white line from the eye; face, cheeks and side of neck fawn

colour ; a black streak from below the eye meeting a black patch on the throat ; nape and hind neck glossy green, ending in a black stripe down the back of the neck, separated from the fawn colour of the sides of the neck by a narrow white line ; upper plumage finely marbled grey, edged with rufous on the back ; upper wing coverts hair brown, the median coverts the same, with an edging of rufous, forming the anterior margin of the speculum, which is glossy green, ending in velvet black and bordered posteriorly with silvery white ; primaries brown ; scapulars lengthened, deep black in the centre, white on their upper side, and rufous externally ; upper tail coverts brown, white on either side ; tail of 16 feathers, dark brown ; beneath the throat black ; neck and breast vinaceous purple, paling below with black spots ; abdomen white ; flanks mottled grey ; under tail coverts black ; bill dusky ; legs dusky.

"Length.—15·5 inches ; wing 8·5 ; tail 3 ; bill at front 1·5."—(*Jerd., B. Ind.*)

The *female* (of which the Kurrachee Museum has a specimen) wants the rich markings on the head and face, which are mottled grey ; there is a distinct white superciliary streak and a brown streak behind the eye, also a patch of white above the angle of the upper mandible ; chin and throat white ; cheeks and sides of the neck white, the feathers with mesial linear streaks ; breast rufescent, spotted with dark brown ; belly white ; lower abdomen and under tail coverts white, with linear brown spots ; back dark brown, the feathers edged with rufous brown ; flanks dusky rufescent brown, some of the feathers with whitish edgings ; bill 1·62 × 0·62 at its widest part ; tarsus 1 6.

*Hab.*—Sind, N.-W. Provinces at Delhi (*Hume*), Oudh and Bengal.

According to Mr. Hume, this is a rare straggler within the limits of India. Blyth obtained a single specimen (a male) in the Calcutta Bazaar in 1844. Mr. James, C.S., who was for some time in Sind, had a water-colour drawing of the head of a Teal, which Mr. Hume regards as the male of this species, and, besides a female in the Kurrachee Museum, a male was obtained by Mr. Chill at Delhi in 1879.

**1398. *Querquedula falcata*, *Georgi. Act. Stockl.*, 1779, t. 1 ; *Hume, Str. F.* vii. p. 494 ; *id.*, *Game Birds* iii. p. 231. *Anas javana*, *Bodd.*, *Pl. Enl.* p. 930.—The BRONZE CAPPED TEAL.**

A frontal spot ending in a point on the culmen, about 0·4 long and 0·3 wide, pure white. The lores, forehead, crown and lower portion of cheeks a rich ruddy purple or chocolate bronze ; the rest of the cheeks, sides of the head, and occiput emerald green in most lights, in a few ruddy, or even rosy bronze ; the feathers of the hinder crown, occiput and nape are lengthened so as to form a considerable mane-like crest ; the chin and entire throat snow white, then a black ring all round the neck, with dark green or greenish

blue reflections ; the white of the throat runs into a little point into this ring and half divides it ; then a white ring ; then the front and sides of the neck, breast and abdomen white, each feather with a broad subterminal black bar following the curve of the end of the feather ; those of the neck with these bars very perfect and strongly marked, those of the breast and upper three-fourths of the abdomen with only a single bar, more or less imperfect ; back of the neck (below the white ring), interscapulary region, smaller scapulars, sides of the breast, sides, flanks, lower portion of abdomen and feathers about vent closely barred, in some places almost vermiculated, black, or dusky, and white or greyish white in varying degrees of fineness and intensity ; entire wings and larger scapulars dove or grey brown, darker on the quills, the outer webs of all the secondaries black, with dull metallic green lustre, their greater coverts broadly tipped white ; middle and lower back and rump dark, rather glossy hair brown ; a few of the feathers with traces of fine pale vermiculations ; shorter central upper tail coverts similar, but a paler greyer brown ; rest of the upper tail coverts jet black, with a subdued green lustre ; tail a delicate, somewhat silvery grey brown, almost completely covered by the long black upper tail coverts ; entire wing lining and axillaries pure white ; the lowest flank feathers on each side with broad, pure white, unbarred tips ; most of the lower tail coverts black, with a faint greenish lustre ; shorter lateral lower tail coverts on each side pure creamy buff. In the breeding season the tertiaries are said to be greatly elongated, sickle-shaped, and reaching to the end of the primaries ; the shaft and external edges of these feathers whitish, the outer ones being entirely velvety black, but the inner ones less black, and finely vermiculated.

*Male*.—*Length*, 19·75 ; *expanse* 32·5 ; *wing* 9·5 ; *tail from vent* 3·2 ; *tarsus* 1·5 ; *bill from gape* 2·1 ; *weight* 1 lb. 6 ozs. ; *irides* deep brown ; *bill* perfectly black ; *legs and feet* drab, with an olive tinge.

*Adult Female*.—Head striped with purplish brown, each feather margined with fulvous ; sides of the face and neck dotted with small brown points and stripes ; throat paler, varied, with small brown markings ; general colour of the back rufous, more or less broadly and irregularly varied with brown ; lower portion of the back brown, with a few obsolete fulvous edgings, being coloured as in the male, but the sickle-shaped feathers are developed, these being represented by a few elongated and slightly curved feathers, for the most part brown, the outer webs inclining to grey at the base, the outer margins white ; upper part of the breast deep rufous, with a few purplish brown cross markings, these being thickest on the lower part of the neck and sides of the throat ; rest of the under surface of the body fulvous, covered everywhere with very indistinct brown mottlings ; sides of the body and under tail coverts rather deeper rufous, with plainer longitudinal brown stripes and irregular mottlings ; under wing coverts and axillary plumes pure white. Total length—16 inches ; culmen 1·8 ; wing 9·0 ; tail 3·4 ; tarsus, 1·2.

*Hab.*—Punjab and N.-W. Provinces. As yet only recorded from near Lucknow and Delhi, also at Sultanpore. The specimen from the Calcutta market must have been obtained from some part of the Coast.

*Querquedula gibberifrons* is a species only as yet known from South Andamans, where it is a permanent resident. Hume has excellent figures of both male and female in his *Game Birds*. It is a very peculiarly coloured species, the whole upper and lower surface being a sort of a pale rusty ferruginous, each feather with a mesial crescentic or sub-crescentic patch of brown towards the tips, which are slightly paler rusty ferruginous than the bases; orbital ring white; cheeks and throat white; secondary greater coverts, the outer webs of a few secondaries and their tips white; rest of outer webs of secondaries velvety black, with a brilliant green longitudinal band.

### Sub-Family, FULIGULINÆ, Sw.—DIVING DUCKS.

Bill elevated at base, flat and broad towards the tip; nail strong, broad and horny; tarsi short, rather compressed; toes long, webbed to the end; hind toe short; tail short and rounded.

Gen. *Fuligula*, *Steph.*; *Branta*, *Boie.*; *Gray*, *Gen. B.* iii p. 620.

Bill nearly as long as the head, moderately wide, tip depressed; nail large; lamellæ distant; wings moderate, 1st quill longest.

**1399, *Fuligula rufigula*, *Pall.*, *Zoogr. t.* 79; *Bodl. Tab. P. E.* 928; *Gould, B. Eur.* pl. 369; *Ferd., B. Ind.* iii. p. 811; *Str. F.* iv. p. 201; *Murray, Hdbk., Zool., &c. Sind*, p. 238; *Hume, Game Birds Ind.* iii. p. 253. (*Rattoha*, Sind; *Lall-seeree*, Punjab.)**—THE RED-CRESTED POCHARD.

*Male.*—Crown of the head, with an elongated crest of a silky texture and dull yellow colour; head on the sides, cheeks, chin and throat rich chestnut, with a tinge of rose red or reddish bay; nape and a line continued down the back of the neck black; lower neck, breast, sides of the breast and abdomen black, in some specimens the abdomen is a chocolate brown; flanks white; back pale brown, or yellowish brown; the scapulars with a fulvous tinge; end of the wing and a large spot on the sides of the back white; primaries brown on their outer webs and at their tips, white on their inner webs; secondaries white, with sub-terminal dark tips; tertiaries pale brown; rump and upper tail coverts nearly black; tail dark brown; bill bright vermillion; legs and feet vermillion or reddish orange; irides reddish brown.

*Length.*—20·5 to 22 inches; wing 10 to 10·75; tail 3·0 to 4·0; bill 2·3 to 2·5.

*Females* are not much smaller, and average from 20 to 21 inches. Fore-head and crown dark brown; the neck on the back and nape slightly paler;

crest much less developed; sides of the face and neck brownish white; speculum greyish white; breast and flanks yellowish brown, some of the feathers edged paler; shoulder of wing greyish white; tail yellowish brown; legs and feet reddish brown; back rufous or yellowish brown, some of the feathers edged paler.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Bengal, Guzerat, Kutch, Rajputana, the Deccan and throughout India generally, except in Southern India and Ceylon.

It is said to breed in parts of Persia. Occurs everywhere in large numbers during winter from the latter end of October to about the middle of April; a few, however, remain beyond the 10th of April. They are not very shy in their wild state, except in well-shot districts, and usually large bags may be made of this duck in a single day; they swim well and dive equally well, remaining a long while under water. Large lakes and rivers, and situations where there is much deep water, are the natural resorts of this duck.



*Fuligula cristata.* The Tufted Pochard.

**1400. *Fuligula cristata* (Linn.),** *Bodd. Tab. P. E.* 1101; *Gould, B. Eur.* pl. 370; *Ferd., B. Ind.* iii. p. 815, No. 971; *Murray, Hdbk., Zool., &c., Sind,* p. 338; *Hume, Game Birds, Ind.* iii. p. 277. (*Turando, Sind; Abluk, Punjab.*)—The TUFTED POCHARD.

Head, neck, long pendent crest and nape glossy black, with purple and green reflections; on the chin a white triangular spot; throat and breast black; back dusky olive brown, or black brown, tinged with violet; under parts white; vent and under tail coverts black; greater wing coverts white, the tips broadly black; lesser wing coverts like the back; tertials glossy green; bill plumbeous; irides golden yellow; legs and feet dusky.

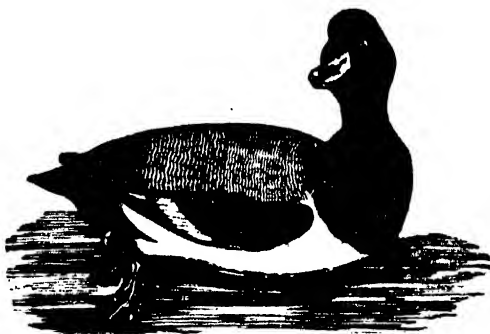
*Length.*—16 to 17 inches; wing 7·5 to 8·5; tail 2·5 to 3·0; bill 1·8 to 2·0.

*Female.*—*Length*—15 to 16 inches, with a wing of 7·5 to 8.

The female is dull rufous brown above, with paler edges to the feathers, the crest is less developed and deep rufous brown in colour; feathers about the bill pale yellowish white; breast on the centre yellowish or fulvous white, tinged with greenish; under parts white, with faint dusky bars of brown; speculum white; the under tail coverts white, with a few spots of pale brown.

*Hab.*—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan, Central and Southern India.

This duck frequents chiefly open tanks, wheels and small dhunds overgrown with weeds. It feeds chiefly on small molluscs and insects. In the stomachs of a few obtained by me at Schwan were species of *Nepidæ*, a species of *Ranatra* being the most common. They dive and swim well, and remain for some time under water in search of minute molluscs, roots and seeds. They are said to be good eating, but after January the flesh has a peculiar flavour, which renders it unpalatable.



*Fuligula marila.* The Scaup Pochard.

**1401. *Fuligula marila* (Linn.),** *Bodd. Tab. P. E.* 10c2; *Gould, B. Eur.* pl. 371; *Ferd., B. Ind.* iii. p. 814, No. 970; *Murray, Hdbk., Zool.*, 3c., *Sind*, p. 239; *id., Vert. Zool., Sind*, p. 305; *Hume, Game Birds Ind.* iii. p. 271.—The SCAUP POCHARD.

“*Male.*—Head and neck black, glossed with green; top of the back and scapulars whitish, with zigzag black lines; lower back and upper tail coverts black; tail brown; wing coverts black, marbled with ashy; speculum white; quills brown; lower neck and breast deep black; abdomen and sides pure white, with brown zigzag markings on the lower portion; under tail coverts black; bill clear bluish above, dusky below, the tip black; irides brilliant yellow; legs bluish ashy; webs blackish.” (*Ferdon.*)

*Length.*—19 to 20 inches; wing 9 inches; tail 2·5; bill at front nearly 2; tarsus 1·5. The measurements of a female given by Mr. Hume are—*Length*, 18 inches, *expanse* 28, *wing* 8·75, *tail* 2·5, *tarsus* 1·33, *bill along ridge* 1·83.

A specimen of a female in the Kurrachee Museum measures—*Length*, 17·75 inches, wing 7·5, tail 2·8, bill at front 1·62, greatest width 0·81. The forehead, crown and nape are chocolate brown, with a faint gloss; a band of white (loreal) at the base of the bill 0·43 wide, tinged with rufous; chin rufescent white; throat slightly paler than the head; lower neck and breast pale brown, the feathers edged with pale rufescent or earthy brown; abdomen satin white; sides of the vent brownish, with a few white spots; back, scapulars, tertials, wing coverts and rump and upper tail coverts dark brown, with a slight gloss; the feathers of the upper back very narrowly edged paler; primaries dark brown on their outer webs and tips, earthy brown on their inner webs; secondaries white, broadly tipped with dark brown and narrowly edged the same on their outer webs; tail dark brown; irides yellow.

*Hab.*—Sind, Cashmere and Nepaul.

It was not till I took up the Scaups for examination in connection with this work, that I detected this species; like Mr. Hume I had it ticketed as *nyroca*. Mr. Hume's plate of the female of this species, and his description of the specimens in his museum puts its occurrence in Sind beyond doubt. The female specimen described was obtained in 1879 at the "One Tree Tank," about six miles north of Kurrachee, on the road to Muggur Peer. I believe now that I had the male also, but just at present it is nowhere to be found.



*Fuligula ferina*. The Pochard.

**1402. *Fuligula ferina* (Linn.), Bodd. Tab. P. E. 803; Gould, B. Eur. pl. 367. *Athya ferina*, Jerd., B. Ind. iii. p. 812; Murray, Hdbk., Zool., &c., Sind, p. 239; id., Vert. Zool., Sind, p. 307; Hume, Game Birds Ind. iii. p. 249.**—The POCHARD, DUN-BIRD or GREAT-HEADED WIGEON.

Head and neck rich or very deep chestnut, glossed with purple in some lights; breast black; back, scapulars and wing coverts marked with undulating transverse striæ of black and white; rump, upper tail coverts and vent black; rest of under parts from below the breast covered with delicate zigzag transverse striæ as on the back; primaries dusky brown, with dusky tips; secon-

daries leaden or bluish grey, tinged with brown, and slightly tipped with dull white; tail dark brownish ash.

The female has the head, neck and nape chestnut or reddish brown; the breast of deeper chestnut; the wing coverts ashy; upper parts as in the male, but the lines less distinct; throat and forepart of the neck reddish white; abdomen ashy or greyish white; bill dark plumbeous; irides orange yellow; legs and feet slaty grey or plumbeous.

*Length*.—18.0 to 18.5 inches; wing 8.0 to 8.5; tail 2.35 to 3.0; bill 2.15 to 2.25.

*Hab*.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Rajputana, Kutch, Guzerat, Kattiawar, Central India, Northern parts of Southern India, and the Deccan. In the Concan it occurs but only as a straggler; it is not recorded from Ceylon, nor from Nepal.

The Pochard makes its appearance in Sind about the end of October, and in the Punjab during November. It is usually found in large flocks, affecting the sea as well as inland creeks and fresh waters; its chief food is molluscs, seeds, flower buds of aquatic plants and algæ also when on the sea, probably such algæ as are detached and found drifting in fresh waters. The Pochards affect deep weedy jheels, keeping well under cover during the day, and feeding chiefly by night; they fly with greater rapidity than the Mallards, and unless their haunts have not been shot over, they are very wary and difficult to approach.

**1403. *Fuligula nyroca* (Gould), *Bodd. Tab. P. E.* 1000; *Gould, B. Eur.* pl. 367; *Naum. Vogt.* t. 309; *Ferd., B. Ind.* iii. p. 813; *Murray, Hdbk., Zool. &c., Sind*, p. 239; *id., Vert. Zool., Sind*, p. 307; *Hume, Game Birds Ind.* iii. p. 293. (*Burnoo*, Sind; *Karcheeya*, Punjab.)—THE WHITE-EYED POCHARD OR FERRUGINOUS DUCK.**

Forehead, crown, nape, sides of the face, throat and upper neck all round deep ferruginous; breast and sides of the breast the same; chin with a triangular patch of white; a black collar on the lower part of the neck, which behind runs into the purplish glossed dark brown of the back; scapulars and tertials dark brown, also the rump and upper tail coverts; abdomen pure white; flanks ferruginous; lower abdomen and vent ferruginous brown, with white specklings; lower tail coverts white; tail dusky brown; lesser, median and greater wing coverts dusky brown; secondaries white, broadly tipped with dark brown; end of the wing white, also the bases of the inner primaries and their inner webs; outer webs dusky blackish brown; axillaries white; bill bluish; irides white.

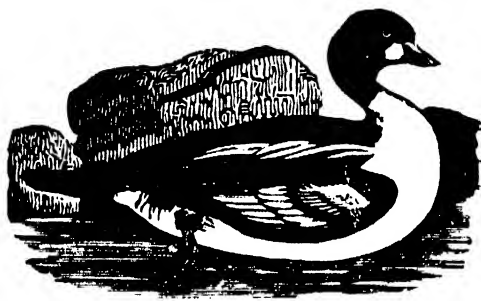
*Length*.—15.5 to 16.0 inches; wing 7.5 to 7.75; tail 2.0; bill at front 1.9 to 2.0.



The female has the head and neck brown, the feathers edged with ferruginous; chin white, but less extended; breast brown, the feathers margined with pale chestnut brown; abdomen dull white; edge of the wing white; secondaries white, tipped with black.

*Length*.—14 to 15 inches; wing 7·72.

*Hab*.—Sind, Beloochistan, Persia, Afganistan and throughout India, except South India and Ceylon. Occurs in Nepaul, Gilgit and Eastern and Western Turkistan, in which latter it breeds. "In the lakes of Cashmere," Hume says, "they breed most abundantly, and that boat-loads of their eggs are brought to market at Srinuggar." The White Eye affects chiefly jheels with thick cover, where they sport about in the early morning, afternoon and at night, retiring during the middle of day. It is not sought for by sportsmen, being very indifferent eating at the best of times.



*Clangula glaucion*. The Golden Eye.

**1404.** *Clangula glaucion* (Linn.), *P. E.* 802; *Gould, B. Eur.* pl. 329; *Murray, Hdbk., Zool., &c., Sind*, p. 238; *id., Vert. Zool., Sind*, p. 296; *Hume, Game Birds*, iii. p. 285.—The GOLDEN EYE OF GARROT.

Head and upper part of the neck glossy deep green when seen in a light reflected at a small angle, otherwise purple; throat brownish black; between the lateral basal sinus of the upper mandible and the cheek is an ovate patch of white, ten-twelfths across in its greatest diameter; the lower neck all round, the breast, forepart of the abdomen, sides, and lower tail coverts white; but the axillary feathers and lower wing coverts are blackish brown, and the edges of the posterior elongated feathers on the sides black; the back and the inner and posterior scapulars are black; the outer scapulars white with the margins black; the tail is deep brown, tinged with grey; the sides of the rump and tibiæ dusky-grey, and the feathers on the hind part of the abdomen dusky at the base; wing brownish black, with a large patch of white, which includes many of the small coverts, several of the secondary coverts, and eight of the secondary quills; these white secondary coverts have their basal half black, but that colour is not apparent when the feathers are laid down.

"*Male*.—The bill is black; the iris yellow; the feet orange yellow with the webs dusky; the claws brownish black.

"*Length*.—To end of tail 19 inches; extent of wings 32; wing from flexure 9; tail 4; bill along the edge 1'42; tarsus 1'42.

"*Female*.—The female is much smaller, and has the bill less stout; the feathers of the head less elongated, and less glossy, as are the scapulars and the feathers of the sides; the bill is light brown, yellowish on the ridge towards the end, with the upper unguis dusky; the lower yellowish brown; the tarsi and toes are of a dingy yellowish brown; the inter-digital membranes dusky; the claws brown; the head and upper neck are umber brown; the lower neck all round dull ash grey, the feathers terminally edged with paler; the lower parts are white, but the sides of the body and rump with part of the abdomen, are grey; the axillary and lower wing covert brownish grey; the back and scapulars are deep ash grey, but on the hind part of back that colour shades into black; the tail dark brown, tinged with grey; the smaller wing coverts are deep grey, many of them tipped with pale grey; the primaries, their coverts, four outer secondaries, and five inner, with their coverts, brownish black; the seven other secondaries pure white, as are their coverts, unless at the base.

"*Length*.—To end of tail 16 inches; expanse 28; wing 8'25; tail 3'25; bill along the ridge 1'25; tarsus 1'25."—(*Mac Gillivray, Br. B. ex Str. F.* vii. p. 441.)

*Hab*.—Sind, Lucknow (*Bonavia*), North Afghanistan.

This species has not to my knowledge been obtained in Sind during the last thirteen years. "Sir A. Burnes obtained a specimen on the Indus, which is figured among his drawings in the possession of the Asiatic Society."

### Gen. **Erismatura**.

Tail of 18, stiff feathers, bare at the tips, and the webs much disunited.

**1405. *Erismatura leucocephala* (Scop.), Hume, Game Birds Ind. iii. pp. 290, 436.**—The STIFF-TAILED WHITE-FACED DUCK.

Crown black; forehead, sides of the head, including the space above the eye, chin and nape pure white; below this white the neck is black with a few buffy brown dots on the forepart; lower neck to the forepart of the back except in the centre, chestnut red, which extends to the foreneck and upper breast, where it is delicately marked with buffy white; back and scapulars ochreous or reddish buff; rump, darker, brownish or finely vermiculated with blackish; lower rump and upper tail coverts chestnut red; quills greyish black, the secondaries externally and the larger wing coverts greyish buff, vermiculated with blackish grey; lesser coverts dull ashy, but slightly vermiculated; tail long and stiff and blackish in colour, under parts buffy white, obscurely

marked with reddish brown; flanks dull chestnut brown, tinged with warm buff and vermiculated with darker brown; bill much swollen at the base, pale ultramarine blue in colour; irides dark brown; legs dull blackish plumbeous.

*Length*.—17·5 inches; wing 6·3; tail 4·3; tarsus 1·35; culmen 1·9; gape 1·82.

The adult female differs from the male in wanting the clear white on the head and in being much richer in plumage; crown and nape blackish brown with a chestnut tinge; sides of the head similarly coloured but marked with white; a streak of white passes below the eye nearly to the nape; and the chin and upper throat are white slightly dotted with blackish brown. General colour of the upper parts darker than in the male, being deep chestnut red; under parts as in the male. Bill dull plumbeous; irides dark brown; legs plumbeous black.

### Family, MERGIDÆ.

Bill straight, much compressed, narrow, convex towards the tip; edges of the mandibles strongly toothed; nostrils median, longitudinal; front toes well webbed, hind toe lobed; tarsus short; wings pointed; tail short, wedge-shaped; head sub-crested.

### *Mergus*, Linn.

Bill slender, tip hooked; first and second quills longest.

**1406. *Mergus serrator* (Linn.),** *P. E.* 207; *Naum. Vogt.* t. 325; *Gould, B. Eur.* pl. 385; *Str. F.* ix. p. 268; *Hume, Game Birds*, iii. p. 305; *Murray, Vert. Zool., Sind*, p. 308.—The RED-BREASTED MERGANSER.

*Adult Male*.—The whole head, chin, throat and the neck all round, for about one inch black, glossed with metallic green on the sides of the head and a bluer sheen elsewhere; along the middle of the crown and occiput runs a comparatively narrow line of excessively narrow, more or less disintegrated-webbed, elongate feathers, of which the longest are over three inches in length, forming a conspicuous crest; the rest of the neck all round, to just the base, pure white, with a conspicuous narrow black line down the centre of its hinder aspect; at the base of the neck a light brownish rufous, or pale brownish chestnut band, extends all round, narrower behind and broadening into a crop-patch. This band is streaked longitudinally with blackish brown. The interscapular region and upper back, the extreme sides of the breast and scapulars velvet black; outside the scapulars and between these and the wing there is a conspicuous patch of long white feathers; the primaries and their coverts (which latter are darkest), the shoulder of the wing and lesser coverts just above the carpus blackish brown, the rest of the lesser and median coverts pure white; the secondary greater coverts black, all, except the first three, very broadly tipped with white, but leaving a portion of their black bases visible below

the white median coverts, thus forming the first black bar across the white of the wing; the secondaries are black, all, except the first three, very broadly tipped with white; tertiaries white, conspicuously margined with black, except the last three, which are black; axillaries pure white; rest of the lower parts white, with, in life, a beautiful salmon or buffy tinge which disappears in the skin; flanks white, vermiculated with greyish black; middle and lower back, rump and upper tail coverts white, with very delicate and close vermiculations of dull black, producing a grey effect; tail dull brown; lower wing coverts white.

The *female* has the entire crown, occiput and crest brown with more or less of a dull rufous or chestnut tinge, and rather ashy towards the forehead; sides of the head and neck all round pale dull brownish chestnut; chin white; throat albescent; breast and entire lower parts white or pinkish white in life, only at the base of the throat and crop the grey brown bases of the feathers show through to a certain extent like hidden bars; interscapular region, mantle, lower back, rump and upper tail coverts brown, most of the feathers with paler margins; quills dusky black; secondaries and their greater coverts black, all, but the first three, broadly tipped with white; tertiaries dusky blackish, paling anteriorly, whitish towards the tip, the innermost mostly white, with a black outer margin; tail like the back.

Both sexes from the above description resemble the Goosander, but may be distinguished by their small size, and in proportion to their length much thinner bills. (*Hume, Str. F.* ix. p. 268.)

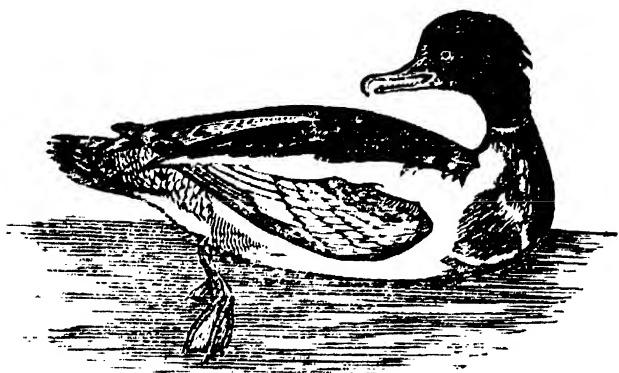
In the male the bill varies from orange red to deep vermilion, is more or less dusky on the edge, and has the nail varying from pale yellowish grey to almost black. In young females there is more dusky on the upper mandible, where the red is often only a lateral band.

*Length.—Males*, 24.0 to 26.0 inches; expanse 29.0 to 32.5; wing 9.0 to 10.0; tail from insertion of feathers 3.1 to 4.2; tarsus 1.8 to 2.05; bill at front along culmen 2.4 to 2.5.

*Length.—Females*, 22.0 to 23.5; expanse 28.0 to 31.0; wing 8.5 to 9.3; tail 2.7 to 3.6; tarsus 1.66 to 1.83; bill at front 2.1 to 2.3. (*Str. F.* ix. p. 268.)

In a second specimen (the first obtained by Capt. Bishop at Manora, and sent by me to Mr. Hume) now in the Kurrachee Museum—male, the bill at front is exactly 2.0 inches, tarsus 1.6, wing 8.37, tail 3.7, length 23.2, agrees exactly with Mr. Hume's description as given above.

*Hab.—Sind.* Mr. Hume says there is no other instance of its occurrence in India. China, Mongolia, S. and S.-E. Siberia, Palestine and throughout Europe; Scotland, Shetland, Sweden and Norway are given as localities outside of India.



*Mergus merganser.* The Goosander.

**1407. *Mergus merganser* (Linn.),** Gould, *B. Eur.* pl. 384; *Hume and Marsh., Game Birds* iii. p. 299. *Mergus castor*, *Ferd., B. Ind.* iii. p. 817; *Str. F.* i. p. 422; ii. pp. 336, 439; iv. pp. 202, 496; v. p. 323; vii. p. 149; *Murray, Vert. Zool., Sind*, p. 309.—The GOOSANDER or MERGANSER.

Head with a short thick crest, and upper part of the neck glossy blackish green; lower neck white; breast, abdomen and under tail coverts white, tinged with orange buff; upper back and scapulars black; lower back and upper tail coverts ashy; tail ashy grey; wing coverts and outermost scapulars rich orange buff, the latter edged with black. The female and young male have the head and neck reddish brown, the upper plumage ashy, the throat white, and a white speculum on the wing. Bill blood red; black on the culmen; irides and feet red.

*Length.*—25 to 28 inches; wing 10·9 to 12; tail 4·8 to 5·9; tarsus 1·8 to 2·03; bill from gape 2·7 to 2·9. Females average 22·9 to 25 inches in length.

*Hab.*—This species, although not yet reported from Sind, will no doubt be found to occur. It is said to occur in the Punjab, N.-W. Provinces, and Bengal, and also in Ajmere, and to breed in the higher valleys of the Himalayas, and in Beloochistan and Persia. A woodcut of the species is given to aid identification.

### **Mergellus.—Selby.**

Bill shorter and wider than in *Mergus*; tip broad and much less hooked; mandible toothed.

**1408. *Mergellus albellus* (Linn.),** *Bodd. P. E.* 449; Gould, *B. Eur.* pl. 387; *Ferd., B. Ind.* iii p. 818; *Str. F.* i. p. 265; iv. pp. 31, 202; *Murray, Hdbk., Zool., &c., Sind*, p. 240; *id., Vert. Zool., Sind*, p. 310; *Hume, Game Birds Ind.* iii. p. 263.—The SNEW.

*Male*.—A black patch with green reflections from the base of the bill extending round the eye; head white, occiput with a longitudinal black patch descending down the back of the neck; chin, throat, neck, breast (except two crescentic black bands) and lower parts white; flanks and thigh coverts white, with dark zigzag transverse striæ; back black; greater wing coverts glossy black, tipped with white; lesser wing coverts partly white; primaries dusky black; secondaries glossy black, edged narrowly and tipped with white, forming two narrow bands across the wing; tertiaries leaden grey; upper tail coverts and tail greyish ash; under tail coverts white; bill light plumbeous with a bluish tinge; irides reddish brown; legs and feet plumbeous.

*Length*.—17 to 18 inches; wing 7·55 to 8·5; tail 3·37 to 3·9; bill 1·5 to 1·6.

The *female* has the head, crown, nape and hind neck reddish chestnut brown; sides of the neck white; crest short; back, upper tail coverts and tail deep ashy grey; chin and throat white; breast greyish white; abdomen white; flanks grey; wings as in the male, but the dark parts grey instead of black.

*Length*.—16 to 17 inches; wing 7·5 to 7·75; tail 3 to 3·2; bill at front 1·2 to 1·4

*Hab*.—Sind, Persia, Afghanistan, Punjab, Oudh, N.-W. Provinces, and North Guzerat. A winter visitant to India, arriving in Sind and the Punjab about the last week in October. The Smew is a shy and wary bird, taking to flight with great readiness. Smews are gregarious and are always to be found in flocks of from 10 to 20 or 30, usually in deep water on the Indus and other large rivers. Hume says—"They are difficult to approach. They keep in deep water, far away from any cover, and you can only shoot them from a boat; they can swim faster than any ordinary native boat can be propelled, and are always on the alert." They feed on fish and crustacea chiefly.

### Family, PODICIPIDÆ.

Tarsus compressed; primaries short; feet lobed; tail very short, almost wanting; bill slightly curved above at the tip.

### Podiceps—Latham.

Bill straight, moderately stout; nostrils oblong, lateral, in a short groove; wings short; tarsus scutellate; hallux bordered by a web.

**1409. Podiceps cristatus** (Linn.), *Bodd.*, *P. E.* 400, 944; *Gould*, *B. Eur.* pl. 388; *Aud.*, *B. Amer.* vii. pl. 479; *Ferd.*, *B. Ind.* iii. p. 821; *Str.* *F.* i. pp. 142, 265; iv. pp. 31, 203; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 240; *id.*, *Vert. Zool.*, *Sind*, p. 311.—The CRESTED GREBE.

Head with a long, dark brown or black silky, erectile crest, standing cut behind, divided in two; forehead slightly paler; nape and neck behind

brownish black or black seasonally, continued on to the back, and coalescing with the dusky brown of the back; in some specimens the entire head, back of the neck, back, scapulars and wing coverts are dusky brown, with a greenish lustre; lesser wing coverts white; primaries dusky brown; secondaries white; tertials like the back; lores, sides of the face and cheeks fulvous white; neck in front, breast and entire lower parts satin white; sides of the breast and flanks with a rufescent tinge; nude space between bill and eye red or dusky seasonally; collar chestnut above, edged below with black; bill brown above, reddish on the sides and below, the tip white; irides crimson red.

*Length*.—22 to 22·5 inches; wing 7·25 to 7·5; bill at front 2·37; tarsus 2.

*Hab*.—Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Guzerat, Kutch and Kattiawar. Affects the sea-coast, also inland lakes, rivers, creeks and ponds, which are covered with reeds and rushes; although their wings are short, they fly well, but resort exclusively to diving, in which they are adepts. They feed on fry of fish, crustacea, tadpoles and seeds of aquatic plants. The skin of the breast is an article of commerce as a substitute for fur.

**1410. *Podiceps nigricollis* (Sund.),** *Edw. B.* pl. 96, p. 2; *Naum. Vogt.* t. 246; *Gould, B. Europe*, pl. 391; *Hume, Str. F.* i. pp. 142, 266; *Murray, Hdbk., Zool., &c., Sind*, p. 241; *id., Vert. Zool. Sind*, p. 311.—The BLACK-NECKED GREBE.

*“Male*.—Whole of the top of the head, together with the rest of the upper part, the chin, throat, and neck all round blackish brown, very glossy on the head; back and wings duller and browner on the neck all round; the chin and throat almost quite black, but a good deal speckled with white; this white speckling extending as a stripe at the sides of the neck behind the ear coverts; two short thick tufts on either side of the occiput, which, though scarcely noticeable in the dried skin, are erected at pleasure in the live bird; behind the eye for about 1·4 inches, a broad streak of orange and reddish yellow silky glistening feathers. The inner web of the sixth primary, and almost the whole of the subsequent primaries and secondaries, pure white; tertiaries and wing coverts unicolorous with the back. The whole breast, abdomen and vent satin white, a little tinged with greyish brown about the vent; tail unicolorous with the back, and on either side of it, and of the tail coverts a good deal of white appears; sides and flanks mottled with blackish brown, with traces of a rufous or orange striation.

“In full breeding plumage the sides and flanks are very strongly streaked with orange red, and the parts indicated as speckled with white are entirely black; in the winter plumage the colours are duller; the front of the neck is an earthy brown; and the whole of those portions, indicated as speckled with white are pure white; the orange red tuft behind the eye is entirely wanting.” (*Hume, Str. F.* ii. p. 267.)

Bill black; irides vermillion; legs and feet greenish plumbeous interiorly, and blackish exteriorly.

*Length*.—12 to 13 inches; expanse 22·5 to 24·5; wing 5·2 to 5·6; tarsus, 2·9 to 3·2; bill at gape 3·6 to 4.

*Hab*.—Sind and the Mekran Coasts; common about the mouths of the Indus. Whether this species is distinct from *auritus* or not has to be finally settled. In vol. i. *Str. F.*, Mr. Hume gives some characters which distinguish *auritus* from this species, and thinks that "it differs in certain details of colouration and in shape of bill sufficient to justify separation."

**1411. Podiceps minor** (*Linn.*), *Bodd.*, *Tab. P. E.* p. 905; *Gould*, *B. Eur.* pl. 392. *Podiceps phillipensis* (*Gm.*), *Yerd.*, *B. Ind.* iii. p. 822; *Str. F.* i. p. 268; iv. p. 203; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 242; *id.*, *Vert. Zool.*, *Sind*, p. 312.—The LITTLE GREBE OR DAB-CHICK.

Crown of the head and nape dark blackish brown, or sepia brown, glossed with greenish; sides of the face, neck on the sides and in front chestnut red; chin dull black; breast sepia brown, mixed with white; flanks pale ferruginous; rest of under parts silky white; under wing coverts buff; primaries pale brown, buffy white basally; secondaries white, margined with brown; back, scapulars and tertials glossy brownish black, with a greenish tinge; bill blackish, paler at the base; irides red brown; legs greenish black or dusky green.

*Length*.—8 to 9 inches; wing 4; bill at front 0·75; tarsus 1·25.

*Hab*.—Throughout India, Beloochistan, Persia, Afghanistan, Eastern Turkestan and Nepal.

#### **Family, PROCELLARIDÆ.—PETRELS, &c.**

Bill long, straight, compressed, very deeply grooved, tip strong, arched and hooked; nostrils tubular, situated at the base of the bill, and exposed.

#### **Sub-Family, PROCELLARINÆ.—STORMY PETRELS.**

Nostrils at base of keel divided by a septum; hind toe generally present; bill slender, compressed; tarsus moderate.

#### **Oceanites.—Keys and Blas.**

Bill short and slender, curved at the tip; tail forked; wings long, second quill longest; tibia partially naked.

**1412. Oceanites oceanica** (*Kuhl.*), *Sharpe*, *Rep. Trans. Venus Exped.*, p. 123; *Dresser*, *B. Eur.* viii. p. 505, pl.; *Hume and Dav.*, *Str. F.* vi. p. 490; *Butler*, *Str. F.* vii. p. 178; *Hume*, *Str. F.* viii. p. 115; *Legge*, *B. Ceylon*, p. 1056; *Murray*, *Vert. Zool. Sind*, p. 313; *Oates*, *B. Br. Burm.*



ii. p. 437. *Procellaria oceanica*, *Kuhl., Beitr. Z. Zool.* p. 136, pl. 10, fig. 1. *Procellaria Wilsoni*, *Bonap., Journ. Acad. Phil.* iii. pl. 2. p. 231, pl. 9, fig. 2. *Thalassidroma*, *Wilsoni*, *Gould. B. Austr.*, vii. pl. 65. *Thalassidroma*—? *Jerd., B. Ind.* ii. p. 827; *Legge, Str. F.* iii. p. 375.—WILSON'S PETREL.

General plumage deep sooty brown, or brownish black, blackish on the primaries, tertiaries, occiput, nape and tail; secondary greater coverts and latest secondaries wood brown or pale hair brown, narrowly margined towards the tips with yellowish white; upper tail coverts, flanks and bases of some of the external under tail coverts pure white; a few of the feathers of the lower abdomen narrowly fringed with white; bill dull black; legs and feet polished black, with a conspicuous pale yellow patch in the centre of each web; irides blackish.

*Length*.—7·12 inches; wing 6·25; tarsus 1·4; bill at front 0·5; from gape 0·7; hind toe obsolete; hind claw just visible as a tiny spur at the base of the tarsus. (*Hume, Str. F.* v., p. 291.)

*Hab.*—Sind and Mekran Coast; also the Ganges, the Bay of Bengal, and the Tenasserim Coast.

Stormy Petrels, vulgarly known to sailors as Mother Carey's chickens, and disliked by them as being foretellers of an approaching storm, have long been celebrated for the wonderful manner by which they traverse the ocean, flying close above the water, or passing over the wavy billows pattering the surface with their webbed feet. Petrels are usually seen in windy or stormy weather, chiefly because "the marine creatures are flung to the surface by the chopping waves, and can be easily picked up as the bird pursues its course." Crustaceans, fish, molluscs and floating algæ are the chief food of Petrels, and it is said they will follow in small flocks under the wake of a ship for the sake of picking up refuse food thrown overboard. On the Mekran and Sind Coasts they are usually met with singly or in pairs flying backwards just above the surface of the water, as Jerdon justly remarks "much resembling swifts, both in general appearance, colour and flight." They are numerous between Charbar and Pusnee, and beyond the mouths of the Indus on the Kurrachee Coast; Jerdon records this species from the mouths of the Ganges and throughout the Bay of Bengal.

### Gen. *Daption*.—*Stephens*.

Wings long; tail moderate; bill hooked at the tip, and very weak.

**1413. *Daption capensis*** (*Linn.*), *Gould, B. Austr.* vii. pl. 53; *Sharpe, Rep. Trans. Venus Exped.*, p. 118; *Hume, Str. F.* vii. pp. 442, 463; viii. p. 115; *Legge, B. Ceylon*, p. 1056; *Oates, B. Br. Burm.* ii. p. 438. *Procellaria capensis*, *Linn., Syst. Nat.* i. p. 213.—THE CAPE PETREL.

Whole head, chin, sides and back of the neck, upper back and lesser wing coverts sooty brown; lower back, upper tail coverts, scapulars and tertiaries

white, each feather tipped with sooty brown; secondaries more broadly tipped; median and greater wing coverts with the outer webs and the tips of the inner sooty brown; remainder of the inner web white; primaries blackish, with a broad white marginal band on the inner web; basal two-thirds of tail white, remainder sooty brown; lower plumage from the chin white; under tail coverts tipped with sooty brown.

*Length*.—About 14 inches; tail 4; wing 9; tarsus 1·7; bill from gape 1·5. (*Oates*.)

Bill blackish brown; irides and feet dark brown. (*Gould*.)

*Hab*.—Obtained by Mr. Hume in the Straits between Ceylon and the mainland. Oates says it is certain to be found in the vicinity of the Burmese coast at times.

### Gen. *Puffinus*.

Bill longer than the head, slender, compressed at the point; lower mandible reflected at the tip; nostrils in a double tube, extending along the under surface of the bill; tarsus moderate, compressed; toes three in front, rather long; hind toe rudimentary; 1st quill longest.

**1414. *Puffinus persicus*, Hume, *Str. F.* i. p. 5; v. p. 292; Murray, *Hdbk*, *Zool.*, &c., *Sind*, p. 243; *id.*, *Vert. Zool.*, *Sind*, p. 213.**—THE PERSIAN SHEAR-WATER.

*Female*.—The head and nape deep sooty brown, the whole of the rest of the upper parts blackish brown; almost, if not quite, black on the primaries, rump, upper tail coverts and tail; upper portion of the lores mingled dusky brown and whitish; lower portion of the lores and the whole of the chin and throat, as far as the eyes on either side, breast, abdomen, vent and shorter central lower tail coverts, pure white; a line about 0·06 wide encircles the eye and extends backwards from the posterior angle as a narrow white streak for a distance of 0·35 to 0·4 inch; below this the ear coverts are dusky brown, slightly mingled with whitish; the white line below the eye is only separated from the white of the throat by a hair line of greyish brown. The sides of the neck and the breast, where the brown of the upper meets the white of the lower parts, are somewhat paler brown, slightly intermingled with white. The sides, axillaries, flanks, and the lesser under wing coverts next the body, and the whole of the exterior and longer tail coverts are deep brown; the rest of the lower wing coverts, except just at the edge of the wing, are white, here and there slightly mottled, especially at the edge of the wing, with dusky brown; the longer axillaries are mottled with white along their bases.

Bill dusky brown, bluish at base and basal three-fourths of lower mandible; irides brown; legs and feet white, tinged with pink and lavender; claws,

margin of web, exterior of foot, and outer toe, and part of ridge of mid-toe black.

*Length*.—13 inches; wing 7; tarsus 1·5; bill from forehead to tip 1·3; from anterior margin of nostril 1·06 inches. (*Hume, Str. F.* i. p. 5.)

*Hab*.—Sind Coast and the mouths of the Indus, also on the Mekran Coast. Like the Petrel, the Puffin or Shear-water also lives entirely on the sea, except during the breeding season, when holes in rocks are their haunts; like the Petrels, they feed on floating garbage, fish, crustacea, &c.

**1415. *Puffinus chlororhynchus*, Lesson, *Traite*, p. 613; Newton, *Ibis*, 1861, p. 181; 1867, p. 359; Legge, *B. Ceylon*, p. 1054; Oates, *B. Br. Burm.* ii. p. 439.—The GREEN-BILLED SHEARWATER.**

Whole plumage sooty brown, darkest on the wings and tail; paler beneath and tinged with glaucous on the chin and throat.

Irides dusky; bill dusky greenish; legs fleshy white. (*Legge*.)

*Length*.—About 15 inches; tail 5·3; wing 1·09; tarsus 1·8; bill from gape 2.

*Hab*.—Indian Ocean, breeding in the Mauritius and neighbouring islands, where it deposits its single egg under stones and in burrows. Has been met with on the Coast of Ceylon, and will probably be found to occur in the Bay of Bengal, and the Burmese Coast.

*Pelecanoides urinatrix* is said by Sundevall to have been observed in the Bay of Bengal, but as nothing more is known of it, I do not include it in the *Avifauna*. The whole of the upper plumage is glossy black, the lesser wing coverts fringed with white, also the secondaries and tertiaries; lower plumage glistening white.

*Length*.—About 8 inches; wing 4·8.

## ORDER—GAVIÆ.

**Family, LARIDÆ, Vig. Lestridæ, Kaup.**

Bill straight, compressed; wings long and pointed; tail long; tarsi with transverse scutes in front; hind toe usually short.

**Sub-Family, STERCOCARINÆ.—G. R. Gray.**

Base of bill covered with a cere, tip hooked; 1st quill longest; nostrils median.

**Gen. *Stercocarius*.—Briss.**

Keel of bill covered with a bony or membranous cere; 1st quill longest.

**1416. *Stercorarius asiaticus*, Hume, *Str. F.* i. p. 268; v. p. 294. *Lestris parasiticus* (Lin.), Gould, *B. Eur.* pl. 448; *And. Birds Amer.* vii. pl. 452; Murray, *Hdbk., Zool., &c., Sind*, p. 244; *id.*, *Vert. Zool., Sind*, p. 314.—The SKUA.**

This is not uncommon off the Manora headland, and along the Sind and Mekran Coasts. There is some difference of opinion in regard to the identity of this bird, under the synonyms given of it above. Mr. Hume, in vol. i., p. 268, refers it to *L. parasiticus*, but in his observations on the species states it may not improbably hereafter turn out that both his specimens and those of Major Tickell's belong to a distinct species intermediate between *pomarinus* and *parasiticus*, in which case he says it may stand as *Stercorarius asiaticus*, nobis. In vol. v. of the same journal he points out the differences between *L. parasiticus* and his *Stercorarius asiaticus*.

The following is the description of the species from specimens obtained by him at Pusnee on the Mekran Coast:—

"The central tail feathers are manifestly imperfectly developed, one projects 0·75 and the other 0·25 beyond the rest of the tail; the bird is obviously in a state of change of plumage, as the two first primaries in each wing are old, and comparatively pale brown, with conspicuous white shafts only tinged brownish for about 0·5 immediately above the tips, while all the other primaries are new and very dark brown, almost black, with only the basal half of the shafts white, and even that slightly tinged with brown; some of the secondaries, scapulars, coverts and feathers of the back are brown; the same dull pale umber as the first two primaries, and so are two of the tail feathers, while the whole of the rest of the wings and tail are of the same deep blackish brown as the third to the tenth primaries. What is noticeable is, that on the back and scapulars the paler brown feathers have no white tippings, which most probably have worn off, these feathers being the old ones, but all the dark feathers of these parts have narrow brownish white margins. The upper tail coverts are conspicuously tipped with white, and the longer ones have two very broad slightly rufous or fulvous white bars. The forehead, crown and occiput are dull, pale, wood brown, here and there faintly tinged rufescent, the feathers with pretty broad blackish brown central streaks; the lores are greyish white, the feathers narrowly dark centred; the cheeks, ear coverts and nape are white, more or less tinged with fulvous or buffy, with very narrow dark brown shaft-stripes; the chin and throat white; the feathers of the base of the neck all round and the breast white, tinged in places fulvous, in places slightly rufescent, with a broad dark brown subterminal transverse band; the sides, flanks and lower tail coverts are white, with broad brown transverse bars, which in some of the lower tail coverts have a slight rufescent aureola; the abdomen and vent are white, but on the sides of the abdomen there are faint traces of barrings similar to those of the breast and flanks; the axillaries

are broadly barred, with a somewhat greyish brown and greyish white; the tibial feathers pure brown."

*Length*.—19 inches; expanse 45; tail from vent 6·4; wing 13; bill at front (including cere, which is 0·7) 1·2; bill from gape 2·02; tarsus 1·8; legs and feet dull black; bill brown; cere pale greenish brown; irides brown.

*Stercorarius pomatorhinus* is said to have occurred near Moulmein and *S. antarcticus* in Ceylon.

### Sub-Family, LARINÆ.—*Bp.*

Bill long, straight above, and slightly curved at the tip.

### Gen. *Larus*.—*Lin.*

Bill moderate, strong, compressed, cultrated, bent down at the tip; lower mandible angled beneath; nostrils linear, lateral, longitudinal, pervious; tibia naked; tarsi moderate; toes palmated; hind toe free, short and high on the tarsus; wings long.

**1417. *Larus cacchinnans*, Pall., Zoogr. Rosso. As. ii. p. 318.** *Larus argentatus*, *Bp.*, *Icon. F. Ital. Uccel.*; *Hume, Yarkand Exp. Zool.*, p. 299; *id.*, *Str. F. i.* p. 270; vii. p. 463; *Murray, Hdbk., Zool., &c., Sind*, p. 245; *id.*, *Vert. Zool., Sind*, p. 316. *Larus leucophæus*, *Licht., Nom. Av. Mus. Berol.* p. 99; *Dresser, B. Eur.* pt. xxii.—THE YELLOW-LEGGED HERRING GULL.

*Summer Plumage*.—Entire head, neck all round, entire lower parts, upper tail coverts and tail pure white; round the eye an orange red ring; entire mantle and back, tertiaries and secondaries a delicate pale bluish grey; the tertiaries and secondaries and longer scapulars broadly tipped with white; the earlier secondaries, especially with the major portion of the inner webs, also white; edge of the wing about the carpal joint white; primaries, the first with the whole outer web black, tipped with white and with a broad white band across both webs near the tip; above this band a considerable portion of the inner web is black, and the rest pale grey; second primary similar, but the white band often entirely wanting or reduced to a spot on the inner web only, the black on the inner web of less extent than in the first, and the basal portion of the outer web the same pale blue grey as the coverts and the rest of the wing; the third and following primaries have only the white tips and no white band, the outer webs become more grey as they recede from the second, and the black diminishes on the inner webs proportionally, so that on the seventh or eighth it is generally reduced to a narrow black band across both webs, or in some cases on the outer web only, and in others entirely wanting on the last three quills.

In the winter plumage the nape and back of the neck are striated with pale brown, in some specimens, thinly on the crown also; *legs and feet* lemon yellow.

*Length*.—23 to 25.75 inches; expanse 58 to 60; wing 16.75 to 18; tarsus 2.5 to 2.78; bill at front 1.9 to 2.35; mid-toe and claw 2.25 to 2.6; bill yellow, red near the tip of the lower mandible in summer. In winter it is dull yellow, whitish at the tip, with a dark spot on both mandibles near the tip, and an orange spot at the tip of the lower one. (*Hume, Str. F.* p. i. 270, *L. argentatus*.)

*Hab.*—Sind, Beloochistan (Mekran Coast), Persian Gulf, large rivers of the Punjab, N.-W. Provinces, the Delhi District and Rajputana.

Numerous during winter in the Kurrachee harbour. It has not yet been finally settled whether this species is *L. argentatus* or *cacchinnans*. Mr. Howard Saunders (*P. Z. S.* 1878) identifies it with *cacchinnans*; the characters of both species are so similar, that it becomes a vexed question. Mr. Hume maintains it is open to argument. All my specimens agree with Mr. Hume's description; but the length of the mid-toe and claw in 5 out of 6 specimens is 2.25, and of those in the striated plumage the mantle is rather darker.

**1418. *Larus affinis*, Reinhardt., Vidensk. Meddel.** 1853, p. 78; *et Ibis*, 1861, p. 17; *Seeböhm and Brown, Ibis*, 1876, p. 452. *Larus fuscus*. *Ferd., B. Ind.* p. 830, No. 978; *Gould, B. Eur.* pl. 431. *Larus occidentalis*, *Hume, Str. F.* 1873, p. 273 (*nec Aud*); *Murray, Hdbk., Zool., &c., Sind*, p. 246; *id., Vert. Zool. Sind*, p. 318.—THE LESSER HERRING GULL.

Head, crown, neck and nape white in summer, in winter streaked with dusky brown, and with a dusky eye spot; chin, throat and breast white; back dark slaty grey, also the greater and lesser wing coverts; primaries dark slaty grey, the first six tipped with white, the first with a broad bar and the extreme tip white, the rest only tipped white; secondaries like the back, and tipped with white; some of the tertials also tipped with white; under wing coverts white; upper and under tail coverts and tail white.

*Length*.—*Male*, 24.2 inches; wing 17.2; tarsus 2.6; mid toe and claw 2.3; bill at front 2.25.

*Length*.—*Female*, 22.3 inches; wing 16.8; tarsus 2.6; mid-toe and claw 2.2; bill at front 2.1; bill yellow, the angle on the lower mandible red; irides pale yellow; eyelids yellowish red.

*Hab.*—Sind, Beloochistan (Mekran Coast), the Coromandel Coast, Kutch, Guzerat, Concan and Deccan.

In immense numbers on the Sind and Mekran Coasts. In the Kurrachee harbour in large flocks, feeding among fishermen when landing their nets and about their huts.

**1419. *Larus gelastus*, Licht. in Thienem, Fort p. flana. Vog. Eur.** pt. v. p. 22; *Degl. Orn. Eur.* ii. p. 318; *Bree, B. Eur. 2nd Ed.* v. p. 72;

*Blanf., East. Pers.* ii. p. 291. *Larus lambruschini*, *Bp., Schl. Mus. P. Bas.* p. 28; *Hume, Str. F.* i. p. 274.—THE ROSY SEA GULL.

*Summer Plumage*.—Entire head, neck, upper back, rump, upper tail coverts, entire lower parts and tail white, tinged with rosy, except on the head, where the rosy tinge is scarcely perceptible; mantle, secondaries, tertiaries, lesser and median wing coverts, and the upper greater coverts, also the wing lining pale bluish french grey, rather pearly grey on the back and tertiaries; four or five of the primary coverts and edge of the wing white; primaries, the first white, except the outer web, tip and margin of the inner web; second to fourth primaries white, the margin of their outer webs narrower and decreasing in extent terminally, and broadening and running up basally on their inner webs, with the black tips broader successively; fifth and sixth primaries tipped white; the outer web of the fifth greyish, and that of the sixth slightly darker, with a subterminal dark band; bill, legs and feet deep red; the bill in some with a blackish tinge; eyelids bright red; irides pale yellow.

*Length*.—17 to 18·5 inches; wing 11·5 to 12·0; bill at front 1·6 to 1·82; tarsus 2 to 2·12.

*Hab*.—Sind (Kurrachee harbour), Gulf of Oman, Persian Gulf, the Mediterranean and Black Sea, also the Red Sea.

Numerous everywhere in the Kurrachee harbour during winter. Distinguished from all other species by its never having a hood and the dark spot in front and behind the eye, characteristic of the winter plumage of *ridibundus*.

**1420. *Larus hemprichi*, *Bp., Heugl. Ibis*, 1859, p. 350; *Blanford, Abyssinia*, p. 441; *id., East. Pers.* ii. p. 292; *Hume, Str. F.* i. p. 279; iv. p. 444; v. p. 296; *Murray, Hdbk., Zool., &c., Sind*, p. 248; *id., Vert. Zool., Sind*, p. 318.—HEMPRICH'S SEA GULL.**

*Summer*.—Forehead, crown, nape, chin and throat chocolate brown; neck in front darker, nearly blackish brown, forming a sort of a "bib"; on the upper breast, the edges of the brown of the back of the neck margining the broad white demicollar of the same colour; upper back, scapulars, lesser, median and greater coverts, also the secondaries and tertials, deep chocolate brown, all the secondaries broadly tipped with white; primaries dark brown, nearly black, all, except the first three, tipped with white; edge of the wing white; breast and sides of the breast paler brown than the back; abdomen, vent, under tail coverts, flanks, upper tail and thigh coverts white; legs and feet yellowish, or greyish yellow; bill greenish drab, tipped red, with a subterminal black bar; irides dark brown.

In winter the forehead and lores are a pale brown, also the crown of the head and cheeks, the feathers here and there margined with greyish white;

breast pale brown, the feathers margined greyish white; chin and throat white, the feathers of the latter tipped with brown, otherwise as in the summer plumage, the colour of the mantle and wings being slightly paler.

*Length*.—17·5 to 18·5 inches; wing 13·25 to 13·7; tarsus 2 to 2·1; bill at front 1·8 to 2·0.

*Hab*.—Sind, Mekran Coast, Persian Gulf, from the Red Sea to Aden, Kutch, Guzerat, Concan (at Bombay).

**1421. *Larus brunneicephalus*, Jerdon, Madras Journ. xii. p. 225; *id.*, Birds Ind. iii. p. 832; Holdsworth, P. Z. S. 1872, p. 480; Str. F. i. p. 278; iv. p. 203; vi. p. 291; Murray, Hdbk., Zool., &c., Sind, p. 247; *id.*, Vert. Zool. Sind, p. 318.**—The BROWN-HEADED GULL.

*Summer Plumage*.—Entire head and neck sooty brown, darker where it terminates; orbital feathers white posteriorly; back and wings light grey; nape, hind neck, upper tail coverts and tail, also the under parts white; first primary black; inner web white at the base and with a white subterminal band, the second has both webs white at the base and a smaller terminal spot, the third is grey, with still less black and no white, and so on, lessening to the seventh; the other quills are grey; bill and feet red, the bill darkish at the tip; irides white. (*Jerd.*)

*Length*.—15·8 to 16·5 inches; wing 11·5 to 13·0; tail 4·5 to 5·5.

In winter, the head, neck all round, entire lower parts and upper tail coverts, also the edge of the wing, are white; tail white with a black band, narrowly edged with white terminally; a dark spot before and behind the eye; quills black, white at their bases, and except the first two, all tipped with white; secondaries dark brown, tipped with white; tertials and upper plumage as in summer.

*Hab*.—Sind, along the coast and inland, Mekran Coast, Persian Gulf, Bengal, Kutch, Guzerat and the Deccan. Occurs also in Burma and Ceylon.

**1422. *Larus ichthyæstus*, Pall., It. ii. App. No. 27; (*Caspian*) *id.*, Zoogr. Rosso. As. ii. p. 322; Tristram, Ibis, 1868, p. 30; (*Palestine*) Shelley, B. of Egypt, p. 307; Dresser, B. Eur. pt. xviii.; Str. F. i. p. 276. Murray, Hdbk., Zool., &c., Sind, p. 247; *id.*, Vert. Zool. Sind, p. 319. Kroikoccephalus ichthyæstus (*Pall.*), *Jerd.*, B. Ind. iii. p. 831.**—The GREAT BLACK-HEADED GULL.

*Summer Plumage*.—Entire head and upper half of neck black; orbital feathers white; mantle, back, scapulars and wings bluish grey; entire lower parts, tail, and upper tail coverts white; in immature plumage the tail has a black band; primaries with a black band, increasing in width to the outermost one, which has the whole of the outer web and half of the inner web black; rest of the first primaries grey, tipped with white; bill wax yellow, vermilion



red at the tip, with a black bar across both mandibles; the extreme tip orange yellow.

*Length*.—28·5 to 29 inches; wing 19·0 to 20·0; bill at front 2·6 to 2·7; tail 7·5 to 7·7.

*Hab*.—Sind and Mekran Coasts, also the larger inland lakes of Sind, Persian Gulf, the Punjab, N.-W. Provinces, Bengal, the Concan, Bombay, and South India (Madras).

**1423. *Larus ridibundus*, Linn., *Syst. Nat.* i. p. 225; Gould, *B. Eur.* pl. 425; *Ferd.*, *B. Ind.* iii. p. 832; *Str. F.* i. p. 278; Murray, *Hdbk.*, *Zool.*, &c., *Sind*, p. 278; *id.*, *Vert. Zool.*, *Sind*, p. 319.**—The LAUGHING GULL.

Head and upper part of the neck all round deep reddish or blackish brown; lower neck, breast, abdomen, vent, under and upper tail coverts and tail white; mantle, tertials and secondaries pale ashy; four or five lower primary coverts white, the rest pale ashy; primaries white, outer web, except for about an inch of the tip and edge of the inner web of first primary black; second primary broadly edged on the inner web and tipped with black on the outer web; at about the terminal third of the quill a narrow black margin about an inch in length; third primary white on the outer web, greyish on the inner, broadly margined and tipped with black, and for about two inches from the tip a margin on the outer web; 4th primary the same; rest pale grey; the fifth, sixth and seventh narrowly tipped with black; the inner primaries and some of the secondaries dark shafted; bill and legs deep red; irides dark brown.

*Length*.—15·5 to 17 inches; wing 13·0 to 13·5; tail 4·75 to 5·5; bill at front 1·37 to 1·75.

In winter plumage, the head and neck are white, and there is a dark spot in front of the eye and another near the ear coverts; the primaries too differ in their markings; the first is white, with the outer web black, also the margin of the inner one and the tip, the second is similar, but the black outer web begins from the tip of its covert, and the inner web and tip is margined more broadly with black; the black of the outer web of the third is still less, and it decreases also in the fourth, the inner web of which is greyish instead of white, and broadly margined and tipped with black, the rest are greyish with black tips, except the two last, which has besides a small white spot terminally; the first three primary quills agree well with the plate in *P. Z. S.*, 1878, p. 201, (Saunders on the *Larina*.)

*Hab*.—Sind, in the Kurrachee harbour, and on the inland lakes; the Mekran Coast, Persian Gulf, rivers of the Punjab and Bengal, at Bombay, also the Mediterranean Coast to Egypt, Asia Minor, the Red Sea and Arabian Coast.

**Sub-Family. STERNINÆ.—Bp.**

Bill long or moderate, entire, straight, compressed and pointed; the lower mandible angled; nostrils longitudinal; wing long and pointed; tail short and even, or long and forked; tarsus short and slender; toes short, webbed.

The common residence of this Family is the sea shore, mouths or banks of large rivers and lakes. They are always in large flocks, and especially so in the breeding season.

They continue long on the wing, and are quick in all their evolutions, darting upon their finny prey, rising in the air, or gliding along near the surface of the water. They are commonly divided as Marsh, River, Sea, and Oceanic Terns, according to their habits and structure.

**Gen. Hydrochelidon.—Boie.**

Bill rather long, slender, gently arched on the culmen; gonys with the ascending portion short; tail short, slightly forked; feet not fully webbed.

**1424. Hydrochelidon hybrida.** *Pall., Zoogr. Ross. Asiat.* ii. p. 388; *Oates, Str. F.* iii. p. 348. *Sterna Javanica, Horsf., Trans Linn. Soc.* xiii. p. 198. *Hydrochelidon Indica, Jerd., B. Ind.* iii. p. 837; *Hume, Nests and Eggs, Ind. B.* p. 648. *Sterna innotata, Beavan, Ibis,* 1868, p. 404. *Hydrochelidon hybrida, Salvad., Ucc. Born.* p. 372; *Saunders, P. Z. S.* 1876, p. 640; *Dresser, B. Eur.* viii. p. 315, pl.; *Legge, Birds of Ceylon,* p. 996; *Oates, B. Br. Burm.* p. ii. p. 419.—The WHISKERED TERN.

Forehead, crown, nape and back of neck glossy black; lores and chin white; throat and breast pale bluish ash; abdomen dusky; under tail coverts white, also the edge of the wing; mantle, wings, upper tail coverts and tail bluish ash; external tail feathers white; under wing coverts white; bill lake red; irides brown; legs and feet dull red.

*Length.*—11 to 13 inches; wing 8·5 to 9·75; tail 3·75 to 4·5; bill at front 1·5

*Hab.*—Throughout India, Burmah and Ceylon, affecting lakes and the sea coast.

**1425. Hydrochelidon leucoptera** (*Meisn and Schinz.*), *Dresser, B. Eur.* viii. p. 321, pl.; *Saunders, P. Z. S.* 1876, p. 641; *Hume, Str. F.* viii., p. 115; *Legge, B. Ceylon,* p. 1,000. *Hydrochelidon nigra (Linn.), apud, Salvad., Ucc. Born.* p. 372. *Sterna leucoptera, Meisn and Schinz., Vog. Schweiz.* p. 264.—The WHITE-WINGED BLACK TERN.

Head, neck, back, scapulars, innermost secondaries and entire under parts, (except the under tail coverts which are white) deep glossy black; primary quills, blackish grey, fading to greyish white on the outer portions of the

inner webs, except on the terminal portion shafts of the feathers white; secondaries light french grey; lesser wing covers, edge of the wing, tail, and upper tail coverts white; larger coverts french grey; under wing coverts black and blackish grey; edge of the wing mottled with white. Bill reddish black; irides dark brown; legs and feet vermilion red, with a coral tinge.

In winter the forehead and crown are white, nape and occiput dark grey, also the back and scapulars; rump and upper tail coverts pale greyish white; throat, foreneck, under tail coverts, and under wing coverts white; a black spot in front of the eye; breast greyish.

*Length.*—9·5 inches; tail 3; wing 8·2; tarsus 0·75; bill from gape 1·25.

*Hab.*—Throughout India, Burmah and Ceylon, affecting lakes, rivers and sea-coasts.

**1426. *Hydrochelidon nigra*, Linn., *Syst. Nat.* i. p. 226; *Hume, Str. F.* vii. pp. 445, 446.—The BLACK TERN.**

Head, neck, breast and under parts as far as the thighs black; lower abdomen and vent pale ash; upper plumage, including the wings and tail, dark hoary plumbeous; outermost feathers of tail white exteriorly; legs and feet crimson; claws black; bill black.

*Length.*—10 inches; tail 3; wing 8·2; bill 1·25.

*Hab.*—Sind and Persian Gulf.

### Gen. *Gelochelidon*.—Linn.

Nostrils with plumes reaching the opening; first quill of wing longest; tail forked; tarsus rather long; bill moderate; culmen slightly curved and with projecting gony or angle.

**1427. *Gelochelidon anglica* (Mont.), *Jerd., B. Ind.* ii. p. 836; *Salvad., Ucc. Born.* p. 371; *Blyth, B. Burm.* p. 163; *Hume, Str. F.* vi. p. 491. *Sterna anglica*, *Mont., Orn. Dict. Suppl. Saunders, P. Z. S.* 1876, p. 644; *Dresser, B. Eur.* viii. p. 295. pl.; *Hume, Str. F.* viii. p. 115; *Legge, B. Ceylon*, p. 1011; *Oates, Str. F.* x. p. 246; *id., Birds Br. Burm.* ii. p. 422. *Gelochelidon anglicus*, *Jerd., B. Ind.* ii. p. 836. *Gelochelidon nilotica*, *Murray, Vert. Zool., Sind*, p. 320. *Sterna nilotica* (*V. Hass.*), *Hume, Str. F.* i. p. 281.—The GULL-BILLED TERN.**

In summer forehead, lores, head on the crown, nape and back of the neck silky or deep black; sides of the face, chin, throat, breast and under parts white; mantle, wings and tail light grey, wings reach about two inches beyond the tail, the first primary is rather a hoary grey, the rest light grey, their tips and inner webs next the shaft dusky brown, the margins for their basal two-thirds greyish white; shafts white; secondaries and tertiaries light grey;

under wing coverts white; tail light grey, the feathers white shafted; bill, legs and feet black, the latter with sometimes a reddish tinge; irides dark brown.

*Length*.—14·5 to 16·2 inches; wing 13 to 14·5 inches; reaching the tail by from 2·0 to 2·7 inches; bill at front 1·5 to 1·7; tarsus 1·5.

In winter, the black head is replaced by a white grey streaked head, and a few dusky spots behind and round the eye.

*Hab*.—Sind, Beloochistan, Persia, Bengal, Rajputana, Kutch, the Concans, and Deccan. Has been recorded from Arracan and met with on the coast of the Irrawady delta near Elephant Point and the mouth of the Bassein Creek. Affects the large inland pieces of water, especially numerous on the Munchur Lake in Sind, and the salt water creeks in the deltaic districts. Arrives about the middle of September and leaves about the third week in May.

#### Gen. *Sterna*.—Linn.

Characters the same as *Gelochelidon*. Front toes united by indented web; hind toe short.

**1428. *Sterna caspia*, Pall, Nov. Comm. Petrop xiv. p. 582; Hume, Str. F. i. p. 280; Oates, Str. F. iii. p. 347; Saunders, P. Z. S. 1876, p. 656; Dresser, B. Eur. viii. p. 289, pl.; Hume, Str. F. viii. p. 115; Parker, Str. F. ix. p. 487; Legge, B. Ceylon, p. 1008; Oates, Str. F. x. p. 246; Murray, Vert. Zool., Sind, p. 427; Oates, B. Br. Burm. ii. p. 427. Sylochelidon caspius, Jerd., B. Ind. ii. p. 835.**—The CASPIAN TERN.

*Summer Plumage*.—Crown of the head, nape and back of the neck and ear coverts velvet black; chin, throat, face, breast, the neck in front and behind and entire under parts white; mantle, wings and tail pale blue grey or pearl grey; the first five or six primaries slaty grey, their shafts white; under wing coverts white. In winter the head is white with a few dark feathers on the nape; bill vermilion red, paler towards the tip; irides brown; legs and feet black.

*Length*.—18·0 to 20 inches; wing 16·0 to 17; tail 4·5 to 5·75; bill at front 2·6 to 2·75; tarsus 1·5 to 1·75.

*Hab*.—Sind, Beloochistan Coast, Persian Gulf, the Punjab, N.-W. Provinces and Oudh. Affects the sea-coasts, larger rivers, jheels, lakes and other inland pieces of water. Breeds in N.-W. Ceylon, where Mr. Parker (*Str. F.* x. p. 487) found a colony breeding.

**1429. *Sterna Bergii*, Licht., Verzeich, p. 80; Hume, Nests and Eggs Ind. B. p. 655; id., Str. F. i. p. 283; iv. p. 470; Saunders, P. Z. S. 1876, p. 657; Hume, Str. F. viii. p. 116; Parker, Str. F. ix. p. 490; Legge, B. Ceylon, p. 102; Murray, Vert., Zool., Sind, p. 322. *Sterna cristata*, Steph. in Shaw's Gen. Zool. xiii. i. p. 146. *Sterna velox*, Rupp., Atlas p. 21, t. 13.**

*Thalasseus cristatus*, *Ferd.*, *B. Ind.* ii. p. 842; *Blyth*, *B. Burm.* p. 163. *Thalasseus Bergii*, *David. et Oust. Ois Chine*, p. 523.—The LARGE CRESTED SEA TERN.

Forehead, lores, sides of the face, neck in front and behind, chin, throat, breast, and all the lower parts white; crown of the head, including the eye, crest and nape glossy black; back, wings and tail dusky grey; inner webs of primaries next the shaft dark brown, the margins white; inner primaries unicolorous silvery or hoary grey, margined with white; secondaries white on their inner webs and tips. Bill pale yellow; irides dark brown; legs and feet black.

*Length*.—17·0 to 18·5 inches; wing 14·0 to 14·6; bill at front 2·6 to 2·8.

*Hab.*—Coasts of India generally to the Persian Gulf. Occurs commonly in the Kurrachee harbour, along the Mekran Coast and the Persian Gulf, Burmah and Ceylon. Breeds in the Gulf of Oman, on the Island of Astola, nearly opposite Jask, whence thousands of eggs have been collected during May and June. The eggs are typically broad ovals, strongly pointed towards the small end, but considerably elongated. Varieties are not uncommon. The ground colour varies from white, greenish and pinkish white to pale buff, pale yellowish, and again pale pinkish stone colour to the richest and warmest salmon pink; the markings are of two colours, an intensely deep burnt sienna brown, often quite black in its intensity, and a pale inky purple, which has an appearance of lying beneath the surface of the shell. In some eggs the inky purple markings are almost entirely wanting, in others more numerous and extensive than the dark ones. In others these dark markings are comparatively thinly sprinkled or dense; again there are some with huge blotches and spots about the larger end. The eggs vary from 2·3 inches to 2·71 in length and 1·63 to 1·78 in breadth; the average of 2 dozens was 2·45 × 1·71.

**1430. *Sterna cantia*ca** (*Gm.*), *Yarr., Br. B. 2nd Ed.* iii. fig. p. 497; *Gould, B. Eur.* pl. 415; *Str. F.* i. p. 285; *Murray, Hdbk., Zool., &c., Sind*, p. 248c; *id., Vert. Zool. Sind*, p. 321.—The BLACK-HEADED TERN.

*Summer Plumage*.—Forehead, crown, back of the neck and nape, occipital crest and ear coverts glossy black; sides of the face, chin, throat, neck in front and behind, breast and entire lower parts white, tinged with rosy; mantle and wings pale silvery grey; the first primary is slightly darker than the rest, with more than half of the inner webs near the shaft white; the next two or three paler, also the succeeding ones, till they shade away into the colour of the wing coverts; their inner webs greyish white or white; under wing coverts white; tail forked, white, the external feathers on each side slightly greyish on their outer webs; upper tail coverts white.

In winter plumage the whole of the head is white or mottled with white and black, and there is a crescentic narrow black spot in front of the eye; mantle

and wings as in the summer plumage. Legs and feet black, also the bill, which is tipped on both mandibles with horny yellow, or yellowish white; irides brown.

*Length*.—17·5 to 18·0 inches; wing 11·5 to 12·5; tail 6 to 6·2; bill at front 2·0 to 2·4; wings reach about one inch beyond the tip of the tail. The females are smaller, with a much shorter tail and no rosy tinge.

*Hab.*—Sind, Beloochistan (Mekran Coast), Persia and Egypt. Its other habitats are in various parts of Europe. Affects the sea coast of Sind and Beloochistan, congregating in large flocks on sand banks or rocks in the Kurrachee harbour.

**1431. *Sterna media*.** *Horsf., Trans. Linn. Soc.* xiii. p. 198; *Saunders, P. Z. S.* 1876, p. 655; *Hume, Str. F.* v. p. 301; *Dresser, B. Eur.* viii. p. 285, pl.; *Hume and Dav., Str. F.* vi. p. 493; *Hume, Str. F.* viii. p. 116; *Legge, B. Ceylon*, p. 1030; *Murray, Verh., Zool., Sind*, p. 321; *Oates, B. Burm.* ii. p. 421. *Sterna bengalensis*, *Less. Traite d'Orn.* p. 621; *Hume, Nests and Eggs Ind. B.* p. 655; *id., Str. F.* i. p. 284; ii. p. 318; iv. p. 474. *Thalasseus bengalensis*, *Ferd., B. Ind.* iii. p. 483; *Blyth, B. Burm.* p. 193.—The ALLIED TERN.

*Summer Plumage*.—Forehead, crown, nape, back of the neck and occipital crest glossy black; lores, face, sides of the neck, breast and entire lower parts white; mantle and wings light silvery or satin grey, paler on the tail; the outer web of the external feathers greyish white; primaries dusky grey, the inner webs margined with white, and the portion next the shaft dusky; wings extend two inches beyond the end of the tail; inner webs of secondaries white. Bill yellow; irides deep brown; legs and feet black.

*Length*.—15·5 to 16·5 inches; wing 12·2 to 12·25; tail 6 to 6·7; bill at front 2·5; tarsus 1·0 to 1·2.

In winter plumage the entire forehead and lores are pure white, the crown white, the feathers centred dusky; occiput dusky, the feathers slightly margined with white; a spot in front of the eye and a line behind it black.

*Hab.*—The sea coasts of Sind, Beloochistan, Bengal, Bombay, Madras, Malabar Coast, Burmah and Ceylon. A maritime species abundant in the Kurrachee harbour, mouths of the Indus, and the tidal creeks.

**1432. *Sterna melanauchen*.** *Temm., Pl. Col.* 427; *Saunders, P. Z. S.* 1876, p. 661. *Onychoprion melanauchen*, *Ferd., B. Ind.* iii. p. 844; *Oates, B. Br. Burm.* ii. p. 429. *Sternula melanauchen*, *Hume, Nests and Eggs, Ind. B.* p. 656. *Onychoprion sumatrana* (*Raffl.*), *Salvad., Ucc. Born.* p. 374. *Sterna sumatrana* (*Raffl.*), *Hume and Dav., Str. F.* vi. p. 493; *Hume, Str. F.* viii. p. 116.—The BLACK-NAPED TERN.

Entire plumage white; the back, wings and tail tinged with grey; outer web of first primary dark grey; a black band from the lores, through the eye, and continued behind so as to form a large triangular patch on the back of the neck. Bill black, the extreme tips yellowish; legs black; irides brown.

*Length*.—14 to 14·5 inches; tail 6; wing 8·6; tarsus 0·7; bill from gape 2·1; fork of tail 3·5.

*Hab.*—Tenasserim, the Andaman and Nicobar Islands. In the two latter places it breeds from May to August. Eggs, two in number, laid in a depression in a rock. Colour similar to those of the other members of the group, clouded, spotted and blotched with pale purple or dusky lilac. Size 1·41 to 1·65 × 1·06 to 1·2.

**1433. *Sterna seena*, Sykes, P. Z. S. 1832, p. 171; Hume, Nests and Eggs, Ind. B. p. 650; id., Str. F. iii. p. 193; Saunders, P. Z. S. 1876, p. 645; Anders., Yunnan, Exped. p. 693; Hume, Str. F. viii. p. 116; Legge, B. Ceylon, p. 1003; Oates, B. Br. Burm. ii. p. 423; Murray, Vert. Zool., Sind, p. 323. *Sterna aurantia*, Gray and Hardw., Ill. Ind. Zool. i. pl. 69, fig. 2. *Seena aurantia*, Jerd., B. Ind. ii. p. 838; Blyth, B. Burm. p. 163; Wardlaw-Ramsay, Ibis, 1877, p. 472; Oates, Str. F. v. p. 169.—The INDIAN RIVER TERN.**

Forehead, crown, nape and back of the neck, also circle enclosing the eye, glossy black; sides of the face, chin and throat white; breast and abdomen pearly greyish white; under tail coverts white; tail pale grey, the external feathers white; back, secondaries, tertiaries and wing coverts pale or ashy grey; primaries hoary or silvery grey, the inner webs of the first three light brown, edged with dusky; under wing coverts white; upper tail coverts like the back. In winter plumage the head is white, except a circle of black or dusky round the eye and on the ear coverts. Bill bright yellow, tipped dusky; irides brown; legs and feet red.

*Length*.—15·0 to 16·3 inches; wing 11·0 to 11·5; bill at front 1·5; tarsus 0·56 to 1·0; tail 7·0 to 7·5

*Hab.*—Throughout India, Burmah and Ceylon, also in Beloochistan and Persia. A permanent resident in Sind; affects the river and lakes, also jheels. In Sind it breeds in June and July; March and April in Tenasserim, depositing three eggs in a slight depression in the sand. Considerable numbers breed together. Eggs, various shades of buff, streaked, blotched and spotted with brown. Size 1·5 to 1·75 inch × 1·17 to 1·32.

**1434. *Sterna melanogastra*, Temm., Pl. Col. pl. 434; Salvad, Ucc. Born. p. 377; Saunders, P. Z. S. 1876, p. 645; Hume and Dav., Str. F. vi. p. 492; Legge, Birds, Ceylon, p. 1006; Oates, B. Br. Burm. ii. p. 424. *Sterna javanica*, Horsf., Zool. Res. in Java, Gen. Cat.; Jerd., B. Ind. iii. p. 840; Hume, Nests and Eggs, p. 652; Murray, Vert. Zool., Sind, p. 323.—The BLACK-BELLIED TERN.**

Head and nape black; neck behind black; scapulars, tertials and wing coverts light grey; lores, sides of the face, ear coverts, chin and throat white; neck in front and breast pearly grey; abdomen, vent and under tail coverts brownish black.

Bill orange yellow; irides brown; legs vermillion red.

*Length*.—12 inches; wing 9·3; tail 6; bill at front 1·43; tarsus 1. In winter the head is white with dusky streaks, the abdomen is like the back and not black, and the bill tipped with dusky.

*Hab*.—Throughout India, Burmah and Ceylon. Spread throughout the Burmese and Indo-Burmese Countries. Affects inland waters, ponds, marshes and rivers. Breeds all over the Empire, in company with the preceding and in similar situations. Eggs also very similar, but smaller, from 1·18 to 1·5 X 0·95 to 1·02 inches.

**1435. *Sterna Dougalli*, Mont., Dict. Orn. Suppl. Saunders, P. Z. S. 1876, p. 652; Dresser, B. Eur. viii. p. 273, pl.; Legge, Str. F. iii. p. 376; id., Birds Ceylon, p. 1033. *Sterna paradisca*, Keys and Blas. Wirb. Eur. p. 247. *Sterna gracilis*, Gould, P. Z. S. 1847, p. 222; id., B. Austr. vii. pl. 27. *Sterna korustes*, Hume, Str. F. ii. p. 318.—The ROSEATE TERN.**

In summer the crown and nape are deep glossy black; back and upper surface of the wings delicate, light french grey; rump and upper tail coverts white, washed with grey; rest of the plumage pure white, except that the under surface of the body is tinged with a delicate light rose colour; first primary with the outer web black, the rest with the outer webs hoary grey; inner webs of the primaries dark grey, broadly margined to the tip of the feather with white; bill red at the base, otherwise black; iris dark brown; legs reddish orange.

In winter the forehead and cheeks are white; crown and nape brownish black, slightly marked with white; lesser wing coverts along the edge brownish; no trace of rose colour on the under parts, otherwise as in the summer plumage. (*Dresser*.) Legs and feet bright vermillion red; claws black; irides deep brown; bill black; gape and base of lower mandible varied from reddish fleshy to vermillion red. (*Davison*.)

*Length*.—14·5 to 15 inches; tail 7 to 7·5; wing 8·5; to 8·7; tarsus 0·7; bill from gape 2·0; fork of tail about 4.

*Hab*.—Tenasserim, off the mouth of the Loynah Creek, also the Bassein estuary. It has a wide range, being found in Europe, Africa and America, and is met with in various parts of India, Ceylon and the Andaman Islands, extending down to Australia. Frequents only the sea-coasts. Breeds on isolated sandbanks. In Ceylon, Mr. Parker found a colony nesting in June



on a low sand bank on Adam's Bridge. The nests were depressions in the sand, and contained one or two eggs, of the same type as those of the last, pale buff, blotched, streaked and spotted with brown.

**1438. *Sterna hirundo*, Linn., *Syst. Nat.* i. p. 957; Gould, *B. Europe*, pl. 417; *Ferd.*, *B. Ind.* iii. p. 839. *Sterna fluviatilis*, Naum. Vogt. t. p. 712.—THE EUROPEAN TERN.**

Whole head and nape black; plumage above grey; upper tail coverts white; tail pale grey, the feathers white on their inner web; chin, throat, ear coverts and sides of the neck pure white; rest of the lower parts pearly greyish white; lower tail coverts white. Bill deep red; irides brown; legs red.

*Length*.—12·5 inches; wing 9·8 to 10·3; tail 4·5; bill at front 1·4; tarsus 1.

In winter the forehead and top of the head are white, with blackish mixed round the eyes, occiput and nape.

*Hab*.—Central and Southern India and Sind, along the River Indus to the Punjab and the Cashmere lakes.

**1437. *Sterna albigena*, Licht., *Nom. Mas. Berol.* p. 98; *Str. F.* iv. p. 467; v. p. 298; Murray, *Hdbk. Zool. &c., Sind*, p. 248; *id.*, *Vert. Zool. Sind*, p. 324.—THE WHITE-CHEEKED TERN.**

The lores and point of the forehead white, the latter with a few black speckles; a patch in front of the eye black, speckled with white; the anterior half of the crown white, tinged earthy or brownish grey, and with spots and blotches of brownish black. Feathers immediately above the eye, all the feathers behind it, the sides of the head, occiput and nape, black: the posterior half of the crown blackish brown, a little mingled with greyish white; an imperfect white band from the lores beneath the eyes, with another imperfect black one below it. The back of the neck is whitish, the feathers suffused with grey towards the tips; the whole of the back, scapulars, wings and tail a moderately dark french grey, darker than in *S. bengalensis*, but not so dark as in some specimens of *Bergii*. The upper tail coverts slightly paler; the wings more silvery, but the outer web of the first primary and of the exterior elongated tail feather much darker; the inner webs of the primaries darker; the first primary with a considerable portion of the inner web white to the margin; the other primaries also with white on their inner web, but with a grey band on their margin. The second and third tail feathers also a rather darker grey on their outer webs towards the points; the rest of tail feathers, inner and outer webs, pretty well concolorous with the rump and upper tail coverts; the chin, throat and sides of the neck almost pure white, with only a few faint dusky grey patches; the breast and abdomen a dusky bluish grey, with many large patches of white; the lower tail coverts greyish white; the wing lining white.

In breeding plumage, according to Heuglin, the upper surface is a pale bluish grey; the front and sides of the neck, breast and abdomen, a somewhat paler and more purplish grey; the entire upper surface of head and nape intensely black; the chin and upper part of the throat, the lores, and an oblique band below the eyes, conspicuously snowy white; the bill coral red, blackish towards the base of the culmen and at the tips; the feet bright coral red.

*Length*.—14·5 inches to 12·5; expanse 29·25 to 29·5; tail from vent 6·5 to 4·1; wing 9·9 to 9·7; tarsus 0·77 to 0·75; bill from gape 2·15, at front 1·55 to 1·47; irides brown; legs and feet Indian red, tinged in front of tarsi and toes with blackish dusky; bill blackish, with the extreme tips whitish horny.—(*Str. F.* vi. p. 469.)

Occurs along both the Sind and Mekran Coasts, and in the Kurrachee harbour. Mr. Hume (vol. iv. p. 468) in his excellent paper on the birds of "the Laccadives and the West Coast," says—This species, which he obtained there, had only hitherto been obtained on the coasts of the Red Sea, northward to about 24° parallel north latitude and southward to the Gulf of Aden.

**1438. *Sterna Saundersii*.** *Hume, Str. F.* iv. p. 469; v. p. 326; *Murray, Hdbk., Zool., &c., Sind*, p. 249; *id., Vert. Zool., Sind*, p. 325. —SAUNDERS' LITTLE TERN.

"A triangular front l patch, the angles reaching to within 0·12 of the eyes, white; a very broad stripe through the lores to the eye black; a narrow white line intervenes between this stripe and the upper mandible. The whole crown, occiput, short occipital crest and sides of occiput as low as the lower margin of the eye velvet black, the central two-thirds of the lower eyelid white, and no black below this; all the rest of the sides of head and neck, chin, throat, entire under parts, wing lining and exterior tail feather, pure white; the first three primaries black with black shafts and broad white margins on their inner webs; their greater coverts dusky black; the whole of the rest of the upper surface, including wings and tail, and excepting parts and feathers already described, a most delicate satin grey, contrasting in the strongest manner with the early black primaries.

"*Length*.—9·12 inches; expanse 19·25; tail 3·0; wing 6·43; bill at front 1·12, from gape 1·5; tarsus 0·6; legs and feet dusky yellowish olive; bill yellow, broadly tipped dusky; irides blackish brown."—(*Str. F.* v. p. 326.)

This species is extremely common at Kurrachee and along the coast during the latter part of April, also in May and June, in which months it breeds at Kurrachee on the bare plains between Kurrachee and Clifton at Ghizree and on the Moach. The eggs are usually laid in a small depression in the saline soil, the birds selecting wherever possible spots where there is a little loose shelly sand. Eggs glossless and often chalky, two to three in number, oval

and pointed at one end; of a drab, buff, or stone colour, streaked, blotched and spotted, of a dark or deep brown or reddish brown colour generally at the larger end.

**1439. *Sterna sinensis*, Gm., Syst. Nat. i. p. 608; Saunders, P. Z. S. 1876, p. 662; Hume, Str. F. v. p. 325; viii. p. 116; Legge, B. Ceylon, p. 1019. *Sternula minuta* (Linn.), Hume, Nests and Eggs Ind. B. p. 654 (part); Oates, Str. F. iii. p. 349. *Sterna minuta*, apud Wald. in Blyth's B. Burm. p. 163. *Sternula sinensis*, David et Oust. Ois. Chine, p. 627. *Sterna Gouldi*, Hume, Str. F. v. p. 326; Oates, Str. F. x. p. 247.—The EASTERN LITTLE TERN.**

*Summer Plumage*.—Forehead, continued back to a point on either side just over the eye, white; crown, nape, the upper part of the hind neck and a streak from the nostrils through the eye to the nape, deep black; upper plumage pale grey, becoming paler and whitish on the upper tail coverts and tail; first two primaries nearly black, margined on their inner webs with white; remaining primaries and secondaries grey, the latter tipped with white on the outer webs; shaft of the first primary white, that of the second more or less white; remainder of the plumage white. *In winter* the crown is white, gradually turning to dusky and running into the nape, which remains black, the black of the nape extending to behind the eye; the band from the nostril to the eye is lost, there being merely a dusky spot in front of the eye; rest of plumage as in summer. Irides brown; bill yellow, broadly tipped with black; legs and feet orange yellow.

*Length*.—10 inches; tail 4; wing 7·0; tarsus 0·75; bill from gape 1·7; fork of tail 2·2.

*Hab*.—The greater part of India and Ceylon. In Burmah it is recorded by Oates from Southern Pegu. Affects all the larger rivers within tidal influence. Breeds in Burmah during March and April, depositing four eggs in a small depression in a sandbank.

**1440. *Sterna anæsthetus*, Scop., Del. Flor. et Faun. Insubr. ii. p. 92; Saunders, P. Z. S. 1876, p. 664; Butler, Str. F. v. p. 301; Hume, Str. F. viii. p. 116; Legge, B. Ceylon, p. 1040; Oates, B. Br. Burm. ii. p. 431; Murray, Vert. Zool. Sind, p. 325. *Sterna panayensis*, Gm., Syst. Nat. i. p. 607. *Onychoprion anæsthetus*, Jerd., B. Ind. iii. p. 844; Salvad, Ucc. Born. p. 374. *Haliplana anæsthetus*, David et Oust. Oist. Chine, p. 528.—The PANAYAN TERN.**

"A frontal band, extending backwards over the eyes for about 0·15 behind the posterior angle of the eye, pure white; a broad black stripe through the lores, to, and behind the eyes joining the black of the occiput; forehead and crown inside the white band and entire occiput and nape velvet black; chin, throat, sides of the neck, axillaries, under wing coverts, lower tail coverts,

edge of the wing along carpal joint and ulna white; the breast, abdomen and flanks white, shaded with pale french grey; back of the neck the same; back, wings and tail sooty brown; upper back strongly shaded with bluish grey, as are also some of the tail feathers; lesser wing coverts behind the white edge of the wing blackish brown; the primaries a darker brown, their shafts brown on the upper surface; outer web of first primary almost black, the rest greyish white on their inner webs, towards their bases; external tail feathers white for the basal half on both webs, greyish brown on the inner web for the terminal half. In winter the entire under surface is pure white, and there is a dark spot in front of the eye; head greyish white or white, the feathers mesially spotted or striped dusky; a black collar at the base of the occiput, extending on each side nearly to the eye.

"Bill dusky reddish, red towards the base of the lower mandible; legs coral red; bill, legs and feet black.

*Length*.—14·75 inches; wing 9·62; tail 7; bill at front 1·6."—(*Str. F.* vi. p. 474.)

*Hab*.—Sind, Beloochistan (Mekran Coast), Persian Gulf, the Concan and the Laccadives, Burmah and Ceylon. Mr. Hume found them breeding on the Vingorla rocks on the Western Coast.

**1441. *Sterna fuliginosa*, Gm., *Syst. Nat.* i. p. 605; *Hume, Str. F.* iv. p. 477; *Saunders, P. Z. S.* 1876, p. 666; *Dresser, B. Eur.* viii. p. 307, pl.; *Legge, Birds Ceylon*, p. 1037; *Murray, Vert. Zool., Sind*, p. 326; *Oates, B. Br. Burm.* ii. p. 432. *Onychoprion fuliginosus, Salvad, Ucc. Born.* p. 373. *Haliplana fuliginosa, Dav. et Oust. Ois. Chine*, p. 528.—The SOOTY TERN.**

Forehead and a streak from the base of the bill to the eye white; sides of the face, chin, throat, neck in front, breast and entire under parts white; top of head, nape, neck behind, back, scapulars and wings sooty black; under wing coverts white; tail forked, external feathers on each side white on their outer web, rest are white at the base; legs and feet black; irides brown; web of outer side of mid-toe reaches to the root of the claw.

*Length*.—16·5 to 17·5 inches; wing 10·5 to 11·8; tail 6·9 to 7·5; tarsus 0·95 to 1; bill at gape 2·0 to 2·4; bill at front 1·6 to 1·7.

*Hab*.—Sind, Mekran Coast, Persian Gulf (Bushire), the Concan (Bombay), Malabar Coast and Ceylon. Breeds on the Laccadive Islands during January and February.

#### Gen. **Anous**.—*Leach*.

Bill long, slender, slightly curved at the tip, angle well marked; nostrils in a groove; wings long; tarsus short; claw of mid-toe serrated.

**1442. *Anous stolidus* (Linn.),** *Gould, B. Austr.* vii. pl. 34; *Ferd., B. Ind.* iii. p. 845; *Salvad., Ucc. Born.* p. 379; *Hume, Str. F.* ii. p. 320; *Saunders, P. Z. S.* 1876, p. 669; *Hume, Str. F.* viii. p. 116; *Legge, B. Ceylon*, p. 1043; *Murray, Vert. Zool., Sind*, p. 326; *Oates, B. Br. Burm.* ii. p. 434.—The COMMON NODDY.

A black line from the base of the bill to the eye; forehead white; crown fulvous or yellowish grey; neck, nape, chin, throat, breast, greater and lesser wing coverts, under wing coverts, upper and under tail coverts and tail dark chocolate brown; back and primaries darker, or blackish brown; legs and feet black; irides brown.

*Length.*—Male, 15 inches; wing 11·5; tail 6·5; bill at front 1·6.

*Hab.*—Sind and Mekran Coasts, also the Bay of Bengal, Laccadives and the West Coast.

**1443. *Anous tenuirostris* (Tem.),** *Saunders, P. Z. S.* 1876, p. 670, pl. lxi. fig. 1; *Hume, Str. F.* viii. p. 116. *Sterna tenuirostris*, *Tem. Pl. Col.* p. 202. *Anous melanops*, *Gould, P. Z. S.*, 1845, p. 103; *id., B. Austr.* vii. pl. 35. *Anous senex* (*Leach*), *apud Hume, Str. F.* ii. p. 321; iv. p. 480.—The GREY-FACED NODDY.

Forehead, crown, nape and upper neck a clear french grey, shading off imperceptibly into the surrounding parts, a black band surrounding the upper half and front of the eye, broader in front; lores, cheeks, and sides of the neck intermediate in colour between the crown and the throat, which with the whole remaining plumage is chocolate brown; wings and tail almost black; outer web of first primary deep black; shafts of the primaries rufous brown; a narrow line of white on the lower eyelid and a still smaller one on the upper. (*Oates.*)

*Length.*—About 12 inches; tail 4·5; wing 8·3; tarsus 0·8; bill from gape 2·1.

*Hab.*—According to Hume, it is said to occur in the Bay of Bengal. One specimen was got at Port Blair. Abundant in the Australian seas. Breeds in some of the Islands in Torres Strait, laying a single egg, which is stone-coloured and marked with red and brown.

**1444. *Anous leucocapillus*,** *Gould, P. Z. S.* 1845, p. 103; *id., B. Austr.* vii. pl. 36; *Hume, Str. F.* ii. p. 322; iv. p. 480; *Saunders, P. Z. S.*, 1876, p. 670, pl. lxi. fig. 3; *Hume, Str. F.* viii. p. 116. *Anous tenuirostris* (*Tem.*), *apud Ferd., B. Ind.* ii. p. 846.—The WHITE-HEADED NODDY.

Forehead, crown and nape white; a narrow line of white on the lower eyelid; lores blackish; whole plumage chocolate brown, the quills darker. Bill black; gullet pale yellow; feet black with the web fleshy yellow. (*Ferd.*)

*Length* about 13 inches; tail 5; wing 9; tarsus 0·95; bill from gape 2·2.

*Hab.*—Bay of Bengal.

*Gygis alba*, Sparrm., The White Noddy, with the whole plumage white, except the feathers round the eye and the shafts of the quills, which are black, is said to have been procured in the Bay of Bengal by Dussumier. As there is no further record of its occurrence, except Mr. Hume's belief that he has seen it twice in the same seas, I do not include it in the Avifauna.

### Sub-Family, RHYNCHOPSINÆ.—Bonap.

Upper mandible shorter than the lower, and grooved to receive the sharp cutting edge of the lower one; claws long and curved; tail forked.

### Gen. *Rhynchops*.—Linn.

Characters same as those of the Sub-Family. Hind toe elevated, the tip touching the ground.

**1445. *Rhynchops albicollis*.** Swains., *Anim. in Menag.* p. 360; *Yerd.*, *B. Ind.* iii. p. 847; *Hume, Nests and Eggs*, p. 656; *id.*, *Str. F.* iii. p. 193; *Blyth, B. Burm.* p. 164; *Wardlaw-Ramsay, Ibis*, 1877, p. 472; *Hume, Str. F.* viii. p. 116; *Oates, Str. F.* x. p. 247; *Murray, Vert. Zool., Sind*, p. 327; *Oates, B. Br. Burm.* ii. p. 436.—The INDIAN SKIMMER.

Forehead, lores, sides of the face, ear coverts, chin, throat, neck all round breast and entire lower parts white; crown of the head, nape, back, lesser and median coverts glossy, sooty blackish brown; lower back and rump and lateral tail feathers white; primaries black; secondaries and tertials tipped with white; bill orange, yellowish at the tip; irides brown; legs and feet bright vermillion.

*Length.*—16 to 16·5 inches; wing 16; tail 4·75 to 5; bill, upper mandible, 2·9 to 3; lower mandible to gape, 3·75 to 3·9.

*Hab.*—Throughout India nearly, on the larger rivers and lakes. Occurs in large flocks of several hundreds or in small companies of 6 or a dozen. Breeds throughout the Empire on sandbanks; the ground colour of the eggs is very variable, from a pale pinky buff to stone colour, and the markings are bold—blotches, streaks and spots of chocolate and reddish brown. In size they vary from 1·45 to 1·76 inches in length and from 1·08 to 1·28 in breadth.

### ORDER.—STEGANOPODES.

Feet entirely webbed; hind toe articulated on the inner side of the tarsus and joined to the inner front toe by the web; legs short; wings long.

## Family PHÆTONTIDÆ.

Bill Ternlike, moderate, stout, straight, the culmen curved, and the margins finely serrated; nostrils pervious; tail with the two central feathers much elongated; lower part of tibia naked.

## Gen. PHÆTON.—Lin.

Characters same as those of the family.

**1446. Phæton rubricauda**, *Bodd., Tabl. Pl. Enl.* p. 57; *Jerd., B. Ind.* ii. p. 849; *Salvad., Ucc. Born.* p. 370; *Hume, Str. F.* ii. p. 322; viii. p. 116. *Oates, B. Br. Burm.* ii. p. 224. Phæton phœnicurus, *Gm., Syst. Nat.* i. p. 583; *Gould, B. Austr.* vii. p. 73. Phæton ætherius, *Bloch, Voy. Blonde. App.* p. 251.—The RED-TAILED TROPIC BIRD.

Whole plumage silky white, except a mark in front of and behind the eye, and the shafts of the primaries and tail feathers, which are black; lengthened central pair of tail feathers red; feathers of the flanks slate colour mesially, also of most of the tertiaries. Bill yellow; tarsus and basal portion of the toes and webs yellow; remainder of feet black.

*Length.*—33 inches; tail 19; wing 13·2; tarsus 1·2; bill from gape 3·2.

*Hab.*—Bay of Bengal. Breeds on islands, laying a single egg in a burrow; egg reddish grey, marked with reddish brown.

**1447. Phæton flavirostris**, *Brandt, Bull. Acad. Sc. St. Petersb.* ii. p. 349; *Hume, Str. F.* ii. p. 323; v. p. 498; viii. p. 116; *Legge, Birds, Ceylon*, p. 1172; *Oates, B. Br. Burm.* ii. p. 225. Phæton candidus (*Briss.*), *apud. Jerd., B. Ind.* ii. p. 850.—The WHITE TROPIC BIRD.

Entire plumage white, except a mark in front of the eye continued as a broad band down the sides of the head; the first four primaries with the outer web; the shaft and a narrow portion of the inner web to within an inch of the tip; the basal portion of the shaft of the next few primaries; a broad band along the median wing coverts, greater portion of the tertiaries and the tips of the scapulars; also the shafts of the lengthened tail feathers and the basal two-thirds of the others which are black; longer flank feathers streaked with slate colour. Bill in the dry specimen pale yellow, with a pale plumbeous line along the central portion of both mandibles; tarsus and basal portion of feet yellow; rest of feet black. (*Oates.*)

*Length.*—30 inches; tail 18; wing 10·6; tarsus 0·9; bill from gape 2·5.

*Hab.*—Ross Island (Andaman Group). Breeds on Ascension Island. *Oates* adds that a specimen of this Phæton was captured at a considerable distance from the sea in Cachar.

**1448. Phæton indicus**, *Hume, Str. F.* iv. p. 481; *Butler, Str. F.* v. p. 302; *Hume and Dav., Str. F.* vi. p. 493; *Hume, Str. F.* viii. p. 116;

*Legge, Birds Ceylon*, p. 1173; *Murray, Vert. Zool., Sind*, p. 327; *Oates, B. Br. Burm.* ii. p. 226. *Phaëton ætherius* (Linn.), *apud. Hume, Str. F. i.* p. 286; ii. p. 323.—THE SHORT-TAILED TROPIC BIRD.

"A broad, conspicuous black crescent in front of the eye, and a narrow black line from the gape to nostrils and nostrils to culmen, dividing the feathers from the bill; the whole forehead, front part of the crown, ear coverts and entire lower parts, including wing lining and axillaries, pure white; a black line from the posterior angle of the eye, running round the back of the nape, where it forms a more or less conspicuous half collar; hind crown and nape inside the half collar white, each feather with a triangular black bar near the tips; carpal joint of wing, four or five posterior primaries, all the secondaries, the primary coverts, except those of the first five quills, the greater and median coverts pure white; winglet, greater coverts, shafts and outer webs of the first five primaries, together with a narrow stripe along the shaft of the inner web, black; the extreme tips and inner webs of these feathers white; tertiaries and their greater coverts black, narrowly margined on the exterior webs and tipped with white; the lesser secondary coverts similar; the entire back, rump, scapulars, and upper tail coverts white, closely barred with black, the bars being slightly cuspidate on the upper back, and the longest scapulars almost devoid of barring; tail feathers white, their bases black shafted, and the lateral feather mostly with an arrow-head bar or spot near the tip; irides deep brown; legs and hallux and its web white, tinged bluish and creamy yellow; rest of feet and claws black.

"*Male*—*Length*, excluding elongated tail feathers, 16·85 to 17·8 inches; central feathers project beyond the rest of the tail 3 to 5·9; expanse 37 to 39·5; tail from vent, including elongated feathers, 7·5 to 10·3; wing 10·75 to 11·8; bill at front 2·2 to 2·45; tarsus 1·0 to 1·13; mid-toe and claw 1·55 to 1·8. *Female*—*Length*, 18·05 exclusive of elongated feathers, which project 4 inches beyond the others; expanse 39; tail from vent, including elongated feathers, 9·0; wing 11·7; bill at front 2·4; tarsus 1."

This is Mr. Hume's description of specimens secured by him in the Gulf of Oman on the Mekran Coast; whether it is the immature of *P. æthereus*, or a new species, is yet a moot question. Captain Butler, in 1877 (*Str. F. v.* p. 302) also secured two specimens on the Mekran Coast between Oormara and Gwadur, and these, Mr. Hume says, are precisely similar to the four specimens secured in the Bay of Bengal. Mr. Davison also observed it at the extreme southern point of Tenasserim and off Cape Negrais.

### Family.—FREGATIDÆ.

Wings highly developed. The single species *known to occur in India* lives almost entirely in the air, taking its prey on the wing. Form and habits Raptorial.



Gen. **Fregata**.—*Briss.*

Bill much hooked at the tip; wings long; tail forked, long; tarsi partially feathered; claws short and curved.

**1449. *Fregata aquila*** (*Linn.*), *Salvad., Ucc. Born.* p. 364; *Hume, Str. F.* viii. p. 116; *Legge, Birds of Ceylon*, p. 1204. *Pelecanus aquilus*, *Linn., Syst. Nat.* i. p. 216. *Attagen aquilus*, *Ferd., B. Ind.* iii. p. 853. *Tachypetes aquilus*, *Sharpe, Rep. Trans. Venus Exped.* p. 151.—THE FRIGATE BIRD.

Glossy black throughout. The young with the head, neck and lower abdomen white.

*Length.*—37 inches; wing 26; tail 9·5; tarsus 0·8; bill from gape 5·0. Gular pouch scarlet; bill pale blue.

*Hab.*—The Malabar Coast and the Bay of Bengal.

*Fregata minor*, which differs from this in being smaller, is said to be found in the Malay Peninsula and Ceylon. The notice of its find in Burmah is only conjectured.

**Family, PELECANIDÆ.**—*Leach.*

Bill stout, straight, broad at the base, compressed at the tip, edges irregularly serrated; feet webbed; face nude.

**Sub-Family, SULIDÆ.**

Bill short, straight, curved and hooked at tip.

Gen. **Sula**.

Characters those of the Sub-Family. Plumage black and white.

**1450. *Sula cyanops***, *Sundev., Phys. Salsk. Tidskr.* 1837, p. 218, t. 5; *Legge, Birds of Ceylon*, p. 1180; *Hume, Str. F.* viii. p. 116. *Sula personata*, *Gould, P. Z. S.* 1846, p. 21; *id., B. Austr.* vii. pl. 77. *Dysporus cyanops*, *Oates, B. Br. Burm.* ii. p. 231.—THE MASKED BOOBY.

Face to behind the eyes and throat nude; entire head, neck, back, rump, upper tail coverts and entire lower parts white, with a slight fulvous tinge; primaries, secondaries and tertials, also the tail, black; irides lemon yellow; bill horny, blackish at the base; both mandibles denticulated for one-half their length from tip.

*Length.*—32·5 inches; bill at front 4; gape 4·87; tail from vent 8·0; tarsus 2·25; wing 16·5; legs and feet pale bluish grey.

*Hab.*—Sind and Beloochistan (Mekran Coast), Bengal, Ceylon, and the Western Coast near Alibag.

**1451. *Sula australis*.** *Steph. Gen. Zool.* xiii. p. 104; *Hume, Str. F.* v. p. 318. *Pelecanus sula*, *Linn., Syst. Nat.* i. p. 218. *Sula fusca* (*Linn.*), *apud Jerd., B. Ind.* iii. p. 851. *Dysporus sula*, *David et Oust. Ois Chine*, p. 530; *Oates, B. Br. Burm.* ii. p. 229.—The BROWN BOOBY.

Breast, abdomen, sides of the body, vent and under tail coverts white; sides of the under tail coverts, also under wing coverts, marked with brown on the edges of the feathers; remaining plumage umber brown; the feathers of the back, scapulars, and rump edged with whity brown; quills and tail dark umber brown; irides white; bill creamy white, with a bluish tinge in veins; pouch, gape, lores and orbital space pale hoary greenish yellow; legs and feet pale yellow. (*Hume*.)

*Length*.—About 30 inches; tail 8; wing 16.5; tarsus 1.9; bill from gape 4.5.

*Hab*.—The Bay of Bengal and the Tenasserim Coast.

**1452. *Sula piscator*** (*Linn.*), *Gould, B. Austr.* vii. pl. 79; *Jerd., B. Ind.* iii. p. 852; *Hume, Str. F.* viii. p. 116. *Sula piscatrix*, *Salvad, Ucc. Born.* p. 368; *Hume, Str. F.* iv. p. 483. *Pelecanus piscator*, *Linn., Syst. Nat.* i. p. 217.—The RED-LEGGED BOOBY.

Whole plumage white, tinged with yellowish on the head and neck; quills and greater wing coverts blackish, variegated with silvery grey. (*Oates*.) Legs and feet red; young birds are brown.

*Length*.—26 inches; tail 8; wing 13.8; bill from gape 4.3.

*Hab*.—Bay of Bengal.

### Sub-Family, PELECANINÆ.

Bill long, flattened, compressed and hooked at tip; tail short; lower mandible and throat with a membranous pouch; orbits nude.

### Gen. *Pelecanus*.—*Lin.*

Characters those of the Sub-Family; second quill of wing longest; secondaries nearly as long as the quills; a membranous mandibular and gular pouch.

Pelicans live in large congregated flocks and feed entirely on fish. They fly high into the air, and go up vast heights by circling; they do not however obtain their prey by diving either under water from the surface, nor by diving into it after the manner of sea gulls and terns, but arrange themselves in some suitable or likely spot on the water in two, three or even four rows, or if there is not a sufficient number, form into a large semi-circle, and beat the water on the surface with their wings, clapping also their huge bills, and so drive the fish towards a shallow spot, where with their bills they gorge

all they get. They breed either on high trees or according to situation low thorny ones, making a huge nest of sticks. Not more than from five to twenty breed on one tree. Eggs, three in number, white and extremely chalky.

**1453. *Pelecanus crispus*, Bruch., Berl. Trans. 1838, t. 3, 4; Naum. Vog. t. p. 283; Gould, B. Eur. pl. 406; Str. F. i. p. 288; vii. p. 288; Murray, Hdbk., Zool., &c., Sind., p. 248g; id., Vert. Zool. Sind, p. 328—The LARGE CRESTED PELICAN.**

In the adult in spring plumage, excepting the quills, primary coverts and winglet, the whole plumage is white, with more or less of a pearly grey tinge on both the upper and under surfaces according to the light in which it is looked at; there is a broad band at the base of the neck in front, and at the sides faintly tinged with very pale straw colour; there is not the faintest tinge of rosy anywhere; the whole of the feathers of the head and neck are very narrow, long, soft and silky, much curled and twisted on the head, especially behind and just above the eye; and the feathers of the back of the head are much elongated, so as to form a dense, full crest, some 4.25 inches long; a line of feathers, about 1.5 inches wide down the whole back of the neck, is of a more snowy and less pearly white than the rest of the neck; the scapulars, rump, and upper tail coverts and median and greater wing coverts are conspicuously black shafted; and all these, except the longest of the scapulars, are very long and lanceolate. A few of the longest scapulars are broad and round, or mucronate at the end; back, scapulars and tail with a beautiful satiny gloss; the two exterior tail feathers with nearly the whole shafts black and generally with a decided grey tinge on the outer web to near the tip; the rest of the tail feathers with only the terminal third of the shafts black; primaries (all of which are white at the base) and their coverts and winglet very dark brown almost black; the second to the fifth primary emarginate on the outer web and silvered with grey on the last above the emargination, which in the second is hidden by the coverts; there is more or less silvering of grey on the outer webs of all the other primaries, their coverts and winglet; the first five primaries are faintly notched on the inner web, and more pale or greyish white on the latter above the notches, while the rest of the primaries have the inner portions of the inner webs white, this is still more conspicuous in the secondaries, most of which have their whole outer webs a silver grey; the tertials are pure white; the feathers of the base of the neck and breast thickly set, very narrow and pointed, the filaments along the margin a good deal separated.

The young bird wants the linear lanceolate feathers. It has the whole head, neck, and upper and lower surface white; the back of the neck more or less shaded with grey; tips of the quills and a row of small coverts near the margin of the wing pale wood brown; the feathers of the head shorter and more fur-like than in the male; crest small; scapulars and shoulder feathers

broadly tipped with pale brown, with dark shafts; tail feathers white at the base on both webs; greater part of the rest of the inner webs white; primaries and secondaries white at their bases; a large portion of their inner webs white; the rest a darkish brown.

*Adult*.—Irides white; in the young pale yellow; legs and feet pale plumbeous; edges of upper and lower mandible for the terminal two-thirds yellowish, and in the young a horny whitish brown, or yellowish grey; the nail orange or pale orange. In the breeding plumage the pouch is a deep orange red, with a black patch on either side, just at the base of the lower mandible; in the non-breeding plumage a dirty primrose, or pale fleshy, tinged with lemon yellow.

*Length*.—*Male*, 70 to 74·5 inches; expanse 114 to 122; tail 9·5 to 10; wing 26·25 to 29·28; bill at front including nail 15·4 to 16·6. *Females* smaller; length 66 to 68; wing 25 to 28. (*Str. F.* vii. p. 448; *Hume Monog. Pelecanus*.)

*Hab*.—Sind, Punjab, N.-W. Provinces and Oudh, also Beloochistan (Mekran Coast).

**1454. *Pelecanus manillensis*, Gm., *Syst. Nat.* i. p. 571. *Pelecanus phillipensis*, Gm. *Syst. Nat.* i. p. 571; *Jerd.*, *B. Ind.* iii. p. 858, No. 1004; *Hume, Nests and Eggs, Ind. B.* p. 658; *id.*, *Str. F.* viii. p. 116; *Murray, Vert. Zool. Sind*, p. 330; *Oates, B. Br. Burm.* ii. p. 326. *Pelecanus rufescens*, *apud. Elliot. P. Z. S.* 1869, p. 583 (part). *Pelecanus philippinensis*, *Blyth, B. Burm.* p. 164; *Legge, Birds Ceylon*, p. 1198.—The SPOTTED-BILLED OR GREY PELICAN.**

*Breeding Plumage*.—Head, neck and upper plumage greyish white or in some pure white, with dark bases visible only on lifting the feathers; feathers of the head long, soft, silky and greyish brown, forming a mane-like ridge to the upper back; occipital crest short, the feathers slightly recurved, of a brownish colour and tipped with white; scapulars white at the base, of a grey colour and black shafted; upper back and scapulars with the feathers sharply pointed; lower back, rump and flanks rich vinaceous, the shafts like those of the upper tail coverts hair brown; lesser and median coverts like the back; greater coverts grey, black shafted; primaries dusky grey, white at the base; secondaries and tertiaries dusky grey; feathers of the tail grey, black shafted; the basal half or more of the inner webs and shafts white; under tail coverts, greyish white, mottled with brown and like the under wing coverts tinged with vinaceous; bill pale bluish, tinged with fleshy, the tip yellowish; mandibular and gular pouch dusky; the gular pouch with reddish venations and tinged ochreous or yellow; irides pale or dusky brown; legs fleshy. *In non-breeding plumage* there is no vinaceous tinge.

*Length*.—60 to 62 inches; wing 24 to 25·5; tail 8 to 8·7; tarsus 2·9 to 3·1; bill at front 12·5 to 14·3.

*Hab.*—Sind, Kutch, Rajputana, Guzerat, Deccan and Bengal, also Southern India, Burmah, and Ceylon. Breeds in vast numbers about the end of October, also in February and March, in the Persian Gulf, Ceylon, and parts of Burmah.

**1455. *Pelecanus roseus*, Gm., Syst. Nat. i. p. 570; Oates, B. Br. Burm. ii. p. 239. *Pelecanus javanicus*, Horsf., Trans. Linn. Soc. xiii. p. 197; Jerd., B. Ind. iii. p. 857; Elliot, P. Z. S. 1869, p. 581; Hume, Str. F. vii. p. 116. *Pelecanus onocrotalus*, Jerd., B. Ind. iii. p. 854. *Pelecanus minor*, apud. Oates, Str. F. x. p. 247. *Pelecanus mitratus* (Licht.), Jerd. B. Ind. iii p. 856.—THE EASTERN WHITE PELICAN.**

Occipital crest small, yellowish white; head, neck, upper and lower surface of body white, with a roseate tinge; primaries dusky; secondaries grey externally; tertiaries white, with broad black margins, internally greyish; tail white; bill blue in the centre, red and yellow on the sides, the tip blood red; lower mandible bluish posteriorly, yellow in front; pouch yellow; irides blood red; legs fleshy pink.

*Length*.—56 inches; wing 24 to 25; tail 6·5; tarsus 4; mid-toe and claw 4·5; bill 12 to 13 inches.

*Hab.*—Nearly throughout India and Burmah, arriving in August, and leaving during January and February.

### Sub-Family, GRACULINÆ OR PHALACROCORACIDÆ.

Bill moderately long, straight and hooked at the tip; face partially nude, also the gullet, which is capable of distension; wings moderate; upper and lower tail coverts short; tail with stiff feathers.

#### Gen. *Phalacrocorax*.—Briss.

Characters the same as those of the Sub-Family.

**1458. *Phalacrocorax carbo* (Linn.), Dav. et Oust. Ois Chine, p. 532; Dresser, B. Eur. vi. p. 151, pl.; Legge, Birds of Ceylon, p. 1182; Doig, Str. F. vii. p. 468; Hume, Str. F. viii. p. 116; Oates, B. Br. Burm. ii. p. 231. *Pelecanus carbo*, Linn., Syst. Nat. i. p. 216. *Pelecanus sinensis*, Shaw and Nodd., Nat. Misc. pl. 529. *Graculus carbo*, Jerd., B. Ind. iii. p. 861; Hume, Nests and Eggs, p. 659; Murray, Vert. Zool., Sind, p. 330.—THE LARGE CORMORANT.**

In summer or breeding plumage, the head and neck are black with white feathers intermixed; nape with a short black erectile crest; lower neck, breast

and entire under surface, except a white thigh patch, glossy black; rump, upper tail coverts and tail black; chin and a fillet of white running up to the eye white, bounded behind by a black band; primaries and their coverts dull black; scapulars, tertials, greater, median and lesser wing coverts bronze brown, the feathers margined with black; legs and feet black; bill brownish; irides deep or sea-green; facial skin pale greenish; gular pouch yellow, spotted bluish in some.

*Length*.—32 to 35 inches; wing 13·2 to 14·7; tail 7 to 7·5; bill at front 2·3 to 2·5.

In winter the neck is black; the white feathers and white thigh patch disappear.

*Hab.*—Sind, N.-West Provinces, Western and Central India, also Beloochistan and Persia, extending to Eastern Turkestan, Nepaul and Cashmere. Distribution almost universal.

Breeds wherever found. In Sind in the middle of the Samara Dhund in the Eastern Narra Districts. Nest a platform of sticks, lined with grass and rushes. Eggs 4 to 6 in number, white or greenish white, glossless, and of a chalky texture.

Whether on sea or on the inland lakes, Cormorants make terrible havoc among the fishes inhabiting the waters they affect. Sometimes, though seldom so seen, they swoop down from mid air on the object of their prey, and pursue it under the surface of the water with great dexterity and unerring certainty. They, however, must necessarily rise to the surface to swallow their prey, and this trait no doubt has led to their being trained by fishermen for the purpose of catching fish. In Sind as well as in China and other countries fishermen always have a dozen or more of these birds sitting, when not employed, lazily on the cross beam of the prow of their boats, quite sullen and stern; the whole deportment of the bird gives it the aspect of an unrelenting tyrant.

In fishing a leathern collar is put round their necks, to prevent the fish being swallowed, and it is said the fishermen in Sind make a livelihood by the amount of fish caught by Cormorants when their nets fail. They are not, however, hooded, as falcons are, when unemployed.

**1457. *Phalacrocorax fuscicollis*, Steph., *Gen. Zool.* xiii. pt. 1, p. 91; Legge, *B. Ceylon*, p. 1182; Hume and Dav., *Str. F.* vi. p. 496; Hume, *Str. F.* viii. p. 116; Oates, *B. Br. Burm.* ii. p. 233. *Phalacrocorax sinensis*, Steph., *Gen. Zool.* xiii. pt. 1, p. 96. *Graculus sinensis* (Shaw), *Ferd.*, *B. Ind.* iii. p. 862; Hume, *Nests and Eggs, Ind. B.* p. 660; Murray,**

*Vert. Zool., Sind*, p. 331. *Graculus fuscicollis*, *Blyth, B. Burm.*,  
*Qates, Str. F.* v. p. 170.—The WHITE-TUFTED CORMORANT.

*Breeding Plumage*.—Whole plumage deep black; glossed with blue and green, the feathers of the back and wing coverts with black margins; a tuft of decomposed soft white feathers about an inch in length on either side of the head just behind the ear coverts; the female has not the white tufts.

*Non-breeding Plumage—Adult Male*.—Entire head and neck glossy black; back, scapulars, rump and upper tail coverts bronze, some of the feathers of the back and wing coverts margined with black; throat white; cheeks, pale brown; entire lower surface black. *No white thigh or cheek patch*. Bill, gular skin and orbits as in the last; irides bluish green; feet black.

*Length*.—24 to 27 inches; wing 11; tail 6; bill at front 2.25. In the breeding plumage the forehead and sides of the head are speckled with white, there is a white tuft of feathers behind the ears, and the chin is white.

*Hab*.—Sind, Kutch, Guzerat, Rajputana, the Deccan, Burmah and Ceylon; also in South Ceylon. Very abundant and resident everywhere it occurs in India. Breeds during November; in some parts as early as July and August.

**1458. *Phalacrocorax pygmæus* (Pall.), Dresser, B. Eur. vi. p. 173, pl.; Legge, B. Ceylon, p. 1191. *Pelecanus pygmæus*, Pall., *Reis. Russ. Reichs.* ii. p. 712. *Graculus javanicus*, *Ferd., B. Ind.* iii. p. 863; *Murray, Vert. Zool., Sind*, p. 332. *Graculus melanognathos*, *Hume, Nests and Eggs, Ind. B.* p. 660. *Graculus pygmæus*, *Blyth, B. Burm.* p. 164.—The LITTLE CORMORANT.**

*In Summer Plumage*.—A white triangular patch on the head; lores and a line through the eyes white; a few white hair-like feathers on the nape and sides of the neck; chin black; whole body glossy black; head with a short occipital crest; wing coverts, scapulars, secondaries and tertiaries glossed silvery, the feathers margined with black; bill brownish or purplish brown; gular and orbital skin livid fleshy; legs dusky.

*Length*.—19 to 20 inches; wing 8.5; tail 5.5; bill at front 1.25; tarsus 1.3.

*Hab*.—Sind, Punjab, N.-W. Provinces, Kutch, Guzerat, Rajputana, Concan, the Deccan, Burmah and Ceylon. Breeds wherever found from August to December according to locality.

### Sub-Family, PLOTINÆ.

Bill with edges finely notched; neck longer than the body.

Gen. *Plotus*.—*Lin.*

Bill long, straight, slender; second and third quills longest; nostrils basal, covered by a shield; tail long and rounded.



*Plotus melanogaster.*

1459. *Plotus melanogaster* (Penn.), *Ferd.*, *B. Ind.* iii. p. 865, No. 1008; *Hume, Nests and Eggs Ind.* *B.* p. 661; *Str. F.* vol. i. p. 469; *id.*, *Str. F.* i. p. 194; *Blyth, B. Burm.* p. 165; *Legge, B. Ceylon*, p. 1194; *Hume and Dav.*, *Str. F.* vi. p. 496; *Oates, Str. F.* x. p. 248; *Murray, Hdbk., Zool., &c. Sind.*, p. 249; *id.*, *Vert. Zool. Sind.*, p. 332. *Anhinga melanogaster*, *Penn.*, *Ind. Zool.*, p. 27, pl. 12 (*Sili, Sind.*).—THE INDIAN SNAKE BIRD.

Head, nape and neck brown, the feathers edged with pale ferruginous; back of the neck slightly darker; chin and throat white, also a line from below the eye to half way down the neck, and a narrow streak from the base of the bill; back and entire under surface glossy black; primaries, secondaries, tertiaries, scapulars and wing coverts black, very slightly glossed;



some of the inner secondaries, all the wing coverts, scapulars and tertial mesially white; upper tail coverts and tail black, the central feathers with barred ridges; under wing coverts black; legs and feet black; bill dusky on the upper mandible, yellowish on the lower; irides yellow.

*Length*.—32 to 33 inches; wing 13·2 to 14; tail 8·3 to 9·2; bill at front 3·5.

*Hab*.—Sind, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan and India generally; also Burmah and Ceylon, extending to the Malay Peninsula.

Breeds in Sind and wherever found from June to December in large societies. Eggs, white or bluish white, with a chalky coat.



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## Distribution Table of the Birds of British India and its Dependencies.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.W.Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Coconan.	Deccan.	E. India.	British Burmah.	Nepaul.
1	1	Vultur monachus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	3bis.	Gyps fulvescens, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	3ter.	Gyps himalayensis, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	4	Gyps indicus, Scop.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	4bis.	Gyps pallescens, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	5	Pseudogyps bengalensis, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	2	Otogyys calvus, Scop.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	6	Neophron giaginianus, Lath.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	50	Circus cyaneus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	53	Circus melanoleucus, Forst.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	52	Circus pygargus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	51	Circus macrurus, S.G. Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	54	Circus aeruginosus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	21	Astur palumbarius, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	22	Astur trivirgatus, Tem.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16	23	Astur badius, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17	23bis.	Astur poliopsis, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18	23ter.	Astur soloensis, Horsf.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19	24	Accipiter nisus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20	25	Accipiter virgatus, Temm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21	45	Buteo ferox, S. G. Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22	44bis.	Buteo desertorum, Daud.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23	47	Buteo plumipes, Hodgs.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24	49	Archibuteo strophiatius Hodgs.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25	7	Gypaëtus barbatus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
26	26	Aquila chrysaëtus, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
27	27	Aquila heliaca, Savig.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
28	27bis.	Aquila mogilnik, S.G. Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
29	29	Aquila vindhiana, Frankl.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
30	30	Aquila hastata, Less.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
31	28	Aquila clanga, Pall.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	33	Nisaëtus fasciatus, Vieill.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
33	31	Nisaëtus pennatus, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
34	37	Lophotriorchis kieneri, Geoff.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
35	32	Neopus malayensis, Tem.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
36	36	Spizaëtus nipalensis, Hodg.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
37	35	Spizaëtus cirrhatus, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
38		Spizaëtus alboniger, Bly.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
39	34	Spizaëtus limnæëtus, Horsf.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
40	38	Circæëtus gallicus, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
41	39	Spilornis cheela, Lath.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
42	39bis.	Spilornis melanotis, Jerd.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
43	39ses.	Spilornis pallidus	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
44	48	Butastur teesa, Frankl.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

No. in. Aristonae.		Jordon's. Nos.		SPECIES.		Sind.	Beloochistan.	Peria.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Cofoan.	Deccan.	S. India.	British Burmah.	Nepal.	
45	48 ter.	Butastur liventer, Tem.																					X	X
46	48 bis.	Butastur indicus, Gm.																						
47	42 bis.	Haliaetus albicillus, Lin.				X	X	X		X	X	X	X											
48	43	Haliaetus leucogaster, Gm.				X				X	X	X	X											
49	42	Haliaetus leucoryphus, Pall.				X	X	X		X	X	X	X											
50	55	Haliastur indus, Bodd.																						
51	56	Milvus govinda, Sykes.				X	X			X	X	X	X											
52	56 bis.	Milvus melanotis, Tem.				X				X	X	X	X											
53	56 ter.	Milvus affinis, Gould.				X				X		X												
54		Milvus korschum, Gm.				X	X		X															
55	59	Elanus caeruleus, Desf.				X				X	X	X	X											
56		Machæramphus alcinus, Westr.																						
57	57 ter.	Pernis ptilorhynchus, Tem.								X	X	X	X	X	X	X								
58		Baza lophotes, Cuv.										X			X									
59	58 bis.	Baza sumatrensis, Lafr																						
60		Baza ceylonensis, Legge.																						
61	20	Microhierax caerulescens, Lin.										X												
62	20 ter.	" fringillarius, Drap.																						
63	16 bis.	Poliohierax insignis, Wald.																						
64	8	Falco communis, Gm.				X	X	X	X	X	X	X	X	X	X	X								
65	9	Falco peregrinator, Sund.						X	X	X	X	X			X									
66	12 bis.	Falco barbarus, Lin.				X	X	X	X	X	X	X												
67	12	Falco babylonicus, Gurn.				X	X	X	X	X	X	X												
68	11	Falco jugger, J. E. Gr.				X	X	X	X	X	X	X	X	X	X	X								
69	13	Falco subbuteo, Lin.				X		X	X	X	X	X												
70	14	Falco severus, Horsf.							X	X	X	X												
71	16	Falco chiquera, Daud.				X	X	X	X	X	X	X	X	X	X	X								
72	15	Falco regulus, Pall.				X				X	X													
73	10	Hierofalco sacer, Gm.				X	X	X	X	X	X	X												
74	17	Cerchneis tinnuncula, Lin.				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
75	18	Cerchneis naumanni, Fleisch.						X	X															
76	18 bis.	Cerchneis pekinensis, Swinh.							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
77	19 bis.	Cerchneis amurensis, Radde.							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
78	40	Pandion haliaetus, Lin.				X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
79	41	Polioaetus ichthyaetus, Horsf.								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
80	41 ter.	Polioaetus humilis, S. Müll. & Schl.											X											
81	72	Ketupa ceylonensis, Gm.				X	X		X	X	X	X	X	X	X	X								
82	73	Ketupa javanensis, Less.							X	X	X	X	X	X	X	X								
83	69	Bubo bengalensis, Frankl.				X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
84	70	Bubo coromandus, Lath.				X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
85	71	Bubo nipalensis, Hodge.																						
86		Bubo orientalis, Horsf.																						
87	74	Scops pennatus, Hodge.				X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

\* Also the Malabar Coast.

No. in Avifauna.	Jerdon's No.	SPECIES.	Sind.	Beloocistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Omh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Coconan.	Deccan.	S. India.	British Burmah.	Nepal.
88	74B.	Scops rufipennis, Sharpe.																		
89	74sept	Scops brucii, Hume.	X	X		X										X		X	X	
90		Scops spilocephalus, Bly.							X	X										
91	74bis.	Scops sunia, Hodgs.						X												X
92	74bis.	Scops plumipes, Hume.						X												X
93	75	Scops lettia, Hodgs.						X		X						X		X	X	X
94	75gnt.	Scops lempiji, Horsf.						X	X	X		X		X		X	X	X	X	X
95	75 qt.	Scops malabaricus, Jerd.	X			X	X	X	X	X		X			X	X	X	X	X	
96		Scops sagittatus, Sharpe						X								X		X	X	
97	74ost.	Scops balli, Hume.																	X	X
98	74gnt.	Scops modestus, Wald.									X	X				X		X	X	X
99	76	Carine brama, Tem.	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
100	76 qt.	Carine pulchra, Hume.																		
101	76gnt.	Heteroglaux blewitti, Hume.										X	X							
102	81	Ninox lugubris, Tick.					X	X	X	X			X				X	X		X
103	81 qt.	Ninox affinis, Tyt.								X				X					X	
104	81bis.	Ninox scutulata, Raff.					X	X		X	X	X					X	X	X	X
105	81gnt.	Ninox obscura, Hume.								X									X	
106	80	Glaucidium brodiei, Burt.								X									X	
107	77	Glaucidium radiatum, Tick.						X		X			X					X	X	X
108	78	Glaucidium malabaricum, Bly														X		X		
109	79	Glaucidium cuculoides, Vig.					X	X		X			X						X	X
110	67	Asio otus, Lin.	X	X	X	X	X	X	X					X						
111	68	Asio accipitrinus, Pall.	X	X	X	X	X	X	X	X	X	X				X	X	X	X	
112	67bis.	Syrnium butleri, Hume																		
113	66	Syrnium nivicolium, Hodgs.					X	X												
114	65bis.	Syrnium sinense, Lath.																	X	X
115	65	Syrnium ocellatum, Less						X				X				X				
116	64	Syrnium newarense, Hodgs.					X	X											X	X
117	63	Syrnium indranee, Sykes.														X	X	X	X	X
118	60	Strix flammea, Lin.	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X
119	61	Strix candida, Tick.					X	X	X	X		X	X						X	X
120	62	Phodilus badius, Horsf.								X										
121	664	Trypanocorax frugilegus, Lin.			X	X	X	X												
122	657	Corvus corax, Lin.	X	X	X	X	X													
123	660bis.	Corvus umbrinus, Hedenb.	X	X	X	X	X													
124	661	Corvus lawrencei, Hume	X	X		X	X	X						X	X			X		X
125	665	Colinus monedula, Lin.			X	X	X													
126	659 bis.	Corone cornix, Lin.		X	X	X														
127	663	Corone splendens, Vieill.	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
128	659	Corone corone, Lin.																		
129	660 bis.	Corone macrorhynchus, Wagl.	X				X	X	X	X	X	X	X			X	X	X	X	X
130	666	Nucifraga hemispila, Vig.								X										
131	668 bis.	Pica rustica, Scop.		X	X	X														
132	671	Urocissa occipitalis, Bly.					X	X											X	X

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Province.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Coccan.	Deccan.	S. India.	British Burmah.	Nepaul.
133	672	<i>Urociassa flavirostris</i> , Bly.	...	...	...	...	×	×	...	×	...	...	...	...	...	...	...	...	×	×
134	674	<i>Dendrocitta rufa</i> , Scop.	×	...	...	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×
135	677	„ <i>frontalis</i> , Mc Clell.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
136	678	„ <i>leucogastra</i> , Gould.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
137	676	„ <i>himalayensis</i> , Bly.	...	...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	×	×
138	678 bis.	„ <i>bayleyi</i> , Tyt.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	×
139	678 qt.	<i>Crypsirhina varians</i> , Lath.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
140	678 ter.	<i>Crypsirhina cucullata</i> , Jerd.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
141	673	<i>Cissa chinensis</i> , Bodd.	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...
142	678 qnt.	<i>Platysmurus leucopterus</i> , <i>Tem</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
143		<i>Garrulus atricapillus</i>	×	×	×	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
144	669 bis.	<i>Garrulus leucotis</i> , Hume	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
145	669	<i>Garrulus bispecularis</i> , Vig.	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	...	×	...
146	670	<i>Garrulus lanceolatus</i> , Vig.	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	...	×	...
147	679	<i>Graculus eremita</i> , Lin.	...	×	×	×	×	×	...	...	...	...	...	...	...	...	...	...	×	...
148	680	<i>Pyrrhocorax alpinus</i> , Koch.	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	...	×	...
149	470 bis.	<i>Oriolus galbula</i> , Lin.	×	...	×	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
150	470	<i>Oriolus kundoo</i> , Sykes.	×	...	...	×	×	×	×	...	×	×	×	×	×	×	×	×	×	...
151	473 bis.	<i>Oriolus diffusus</i> , Sharpe	...	...	...	...	...	...	...	×	...	...	...	...	...	×	×	×	×	...
152	471 ter.	<i>Oriolus tenuirostris</i> , Bly.	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	×
153	471 bis.	<i>Oriolus andamanensis</i> , Tyt.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
154		„ <i>xanthonotus</i> , Horsf.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
155	472	<i>Oriolus melanocephalus</i> , Lin	...	...	...	...	×	×	×	×	...	×	...	...	...	×	×	×	×	...
156	474	<i>Oriolus trailli</i> , Vig.	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	...	×	×
157	279	<i>Dicrurus annectans</i> , Hodgs.	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...
158	286	<i>Chibia hottentottus</i> , Lin.	...	...	...	...	×	...	...	...	...	×	...	...	...	×	×	×	×	...
159	282	<i>Chaptalia aenea</i> , Vieill.	...	...	...	...	...	...	...	×	...	×	...	...	...	×	×	×	×	...
160	282 bis.	<i>Chaptalia malayensis</i> , Hay.	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...
161	278	<i>Buchanga atra</i> , Herm.	×	×	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
162	280	<i>Buchanga longicaudata</i> , <i>Hay</i>	...	...	...	...	...	...	...	...	×	×	...	...	...	...	...	...	×	×
163	280 bis.	<i>Buchanga cineracea</i> , Sharpe	...	...	...	...	...	...	...	×	...	...	×	...	...	...	...	...	×	×
164	280 qnt.	<i>Buchanga leucogenys</i> , <i>Wald.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
165	281	<i>Buchanga caerulea</i> , Lin.	...	...	...	...	...	×	×	...	...	×	...	...	...	...	...	...	×	×
166	283 ter.	<i>Dissemuroides andamanen-</i> <i>sis</i> , Hume.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
167	283	<i>Bhringa remifer</i> , Tem.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
168	285	<i>Dissemurus paradiseus</i> , Lin.	...	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	×	×
169	469	<i>Irena puella</i> , Lath.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
170	265	<i>Tephrodornis pondiceria-</i> <i>nus</i> , Gm.	×	...	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
171	263	<i>Tephrodornis pelvica</i> , <i>Hodgs.</i>	...	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	×	×
172	264	<i>Tephrodornis sylvicola</i> , <i>Jerd.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	×
173	..	<i>Tephrodornis grisola</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...

Also the Malabar Coast.

No. in. Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Province.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burma.	Nepal.
174	267	<i>Hemipus picatus</i> , <i>Sykes</i> .....					X	X	X	X			X						X	X
175		<i>Hemipus obscurus</i> , <i>Horaf.</i> .....							X										X	X
176	267 A.	<i>Hemipus capitalis</i> , <i>McClell.</i> .....						X											X	X
177	269 qt.	<i>Hypocolius ampelinus</i> , <i>Bp.</i> .....	X	X																
178	668 ter.	<i>Platylophus ardesiacus</i> , <i>Cab.</i> .....																		
179	608	<i>Cochoa viridis</i> , <i>Hodgs.</i> .....						X											X	X
180	607	<i>Cochoa purpurea</i> , <i>Hodgs.</i> .....						X											X	X
181	270 ter.	<i>Artamides dobsoni</i> , <i>Ball.</i> .....								X									X	X
182	270	<i>Graucalus macii</i> , <i>Less.</i> .....					X	X	X	X	X	X						X	X	X
183	269	<i>Campophaga lugubris</i> , <i>Sund.</i> .....						X	X			X								X
184	269 bis.	<i>Campophaga intermedia</i> , <i>Hume.</i> .....																	X	X
185	268 bis.	<i>Campophaga melanopectera</i> , <i>Rupp.</i> .....																		X
186	268 qt.	<i>Campophaga neglecta</i> , <i>Hume.</i> .....																	X	
187	271	<i>Pericrocotus speciosus</i> , <i>Lat.</i> .....						X	X	X		X	X							X
188	271 ter.	<i>Pericrocotus elegans</i> , <i>McClell.</i> .....							X	†									X	
189	271 bis.	<i>Pericrocotus andamanensis</i> , <i>Tyt.</i> .....								X	†								X	
190	273 qt.	<i>Pericrocotus flammifer</i> , <i>Hume.</i> .....																	X	
191	272	<i>Pericrocotus flammeus</i> , <i>Forst.</i> .....														X		X		
192		<i>Pericrocotus igneus</i> , <i>Bly.</i> .....																	X	
193		<i>Pericrocotus cinereus</i> , <i>Laf.</i> .....																	X	
194	276	<i>Pericrocotus peregrinus</i> , <i>Lia.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
195	273	<i>Pericrocotus brevirostris</i> , <i>Vig.</i> .....	X	X			X	X	X	X	X	X	X	X	X	X			X	X
196	273 ter.	<i>Pericrocotus neglectus</i> , <i>Hume.</i> .....																	X	
197	275	<i>Pericrocotus roseus</i> , <i>Vieill.</i> .....					X	X	X	X									X	X
198	274	<i>Pericrocotus solaris</i> , <i>Bly.</i> .....						X		X									X	X
199	277	<i>Pericrocotus erythropygus</i> , <i>Jerd.</i> .....						X	X			X	X	X	X			X		
200	277 bis.	<i>Pericrocotus albifrons</i> , <i>Jerd.</i> .....																	X	
201	277 ter.	<i>Pericrocotus immodestus</i> , <i>Hume.</i> .....																	X	
202	268	<i>Lalage sykesi</i> , <i>Strickl.</i> .....								X		X				X	X	X	X	
203		<i>Lalage melanothorax</i> , <i>Sharpe</i> .....																	X	X
204	269 ter.	<i>Lalage terat.</i> , <i>Bodd.</i> .....								X	X								X	
205	296	<i>Hemichelidon sibirica</i> , <i>Gm.</i> .....						X	X	X									X	X
206	299	<i>Hemichelidon ferruginea</i> , <i>Hodgs.</i> .....							X										X	X

† Andamans.

‡ Assam.

† Sikkim.

No. in. Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
207	297	<i>Alseonax latirostris</i> , <i>Raff.</i> ...																		
208		<i>Muscicapa grisola</i> , <i>Lin.</i> ...	X	X	X			X	X											
209		" <i>sordida</i> , <i>God.</i> ...																		
		<i>Aust.</i> .....																		
210	323bis.	<i>Muscicapa parva</i> , <i>Bechst.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
211	323	<i>Muscicapa albicilla</i> , <i>Pall.</i> ...						X	X	X	X	X	X	X	X	X	X	X	X	X
212	323ter.	<i>Muscicapa hyperythra</i> , <i>Cab.</i> ...						X			X									
213	485bis.	<i>Pratincola macrorhyncha</i> , <i>Sol.</i> .....	X	X		X	X	X	X						X	X		X		
214	485	<i>Pratincola insignis</i> , <i>Hodgs.</i> ...						X	X	X										
215	483	<i>Pratincola maura</i> , <i>Pall.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
216	484	<i>Pratincola leucura</i> , <i>Bly.</i> ...	X				X	X	X	X									X	X
217	481	<i>Pratincola caprata</i> , <i>Lin.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
218	322	<i>Poliomyias hodgsoni</i> , <i>Ferr.</i> ...						X		X									X	†
219	310	<i>Muscicapula supercilialis</i> , <i>Jerd.</i> .....						X	X	X		X							X	X
220	311	<i>Muscicapula astigma</i> , <i>Hodgs.</i> ...						X	X	X		X							X	
221	326	<i>Muscicapula maculata</i> , <i>Tick.</i> ...						X	X			X							X	†
222	312	<i>Muscicapula sapphira</i> , <i>Tick.</i> ...						X	X	X									X	†
223	508	<i>Tarsiger ruflatus</i> , <i>Hodgs.</i> ...						X											X	†
224	509	<i>Tarsiger hyperythrus</i> , <i>Bly.</i> ...						X											X	†
225	313	<i>Tarsiger hodgsoni</i> , <i>Moore.</i> ...						X											X	†
226	510	<i>Tarsiger indicus</i> , <i>Hodgs.</i> ...						X											X	†
227	511	<i>Tarsiger chrysæus</i> , <i>Hodgs.</i> ...						X											X	†
228	290	<i>Hypothymis azurea</i> , <i>Bodd.</i> ...					X	X	X	X		X				X	X	X	X	†
229	290 bis.	<i>Hypothymis occipitalis</i> , <i>Vig.</i> ...																	X	†
230		<i>Xanthopygia fuliginosa</i> , <i>Vig.</i> ...						X	X	†									X	
231	487	<i>Oreicola jerdoni</i> , <i>Bly.</i> ...						X	X	X									X	
232	486	<i>Oreicola ferrea</i> , <i>Hodgs.</i> ...						X	X	X									X	†
233	294	<i>Chelidorhynch hypoxantha</i> , <i>Bly.</i> .....								X	X								X	†
234	291	<i>Rhipidura albicollis</i> , <i>Vieill.</i> ...					X	X	X	X	X	X					X	X	X	†
235	293 bis.	<i>Rhipidura javanica</i> , <i>Sparrm.</i> ...																	X	
236	293	<i>Rhipidura pectoralis</i> , <i>Cuv.</i> ...													X		X	X		
237	292	<i>Rhipidura albifrontata</i> , <i>Sharpe.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X	X	
238	298	<i>Terpsiphone paradisi</i> , <i>Lin.</i> ...	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	
239	289	" <i>affinis</i> , <i>Hay.</i> ...																	X	X
240		<i>Philentoma velatum</i> , <i>Tem.</i> ...																	X	
241		" <i>pyrrhopterum</i> , <i>Tem.</i> .....																	X	
242	295	<i>Culicicapa oeylonensis</i> , <i>Soc.</i> ...						X	X	X		X	X						X	X
243	369	<i>Cryptolopha burkii</i> , <i>Burt.</i> ...						X	X	X									X	†
244	370	" <i>cantatrix</i> , <i>Tick.</i> ...									X								X	†
245	376	" <i>affinis</i> , <i>Hodgs.</i> ...								X		X							X	†
246	572et.	" <i>xanthoschista</i> , <i>Hodgs.</i> .....						X	X	X		X							X	†
247	571	" <i>schisticapa</i> , <i>Hodgs.</i> ...						X											X	†

\* Malabar Coast.

Andamans.

† Sikkim.

‡ Assam.

No. in. Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Borneo.	Nepal.
248	574	<i>Cryptolopha superciliaris</i> , <i>Tick</i> .....							X									X	†
249	575	„ <i>poliogenya</i> , <i>Bly.</i> .....							X										†
250	578	„ <i>castaneoceph.</i> , <i>Hodgs.</i> .....							X										†
251	577	„ <i>albigularis</i> , <i>Hodgs.</i> .....																	†
252	579	„ <i>hodgsoni</i> , <i>Moore</i> .....																	†
253		„ <i>flavigularis</i> , <i>Godwin-Austen</i> .....								X†									†
254	302	<i>Stoporala albicaudata</i> , <i>Jerd.</i> .....															X		
255	301	„ <i>melanops</i> , <i>Vig.</i> .....						X			X				X	X	X	X	†
256	309	<i>Siphia pallidipes</i> , <i>Sharpe</i> .....													X		X		†
257	303	„ <i>unicolor</i> , <i>Bly.</i> .....						X									X		†
258	304	„ <i>rubeculoides</i> , <i>Vig.</i> .....					X	X	X								X	X	†
259	306	„ <i>tickellæ</i> , <i>Bly.</i> .....						X	X	X	X	X		X	X		X	X	
	305	„ <i>magistrostris</i> , <i>Bly.</i> .....							X								X		†
260	308	„ <i>nigrorufa</i> , <i>Jerd.</i> .....															X		
261	300	„ <i>strophiate</i> , <i>Hodgs.</i> .....						X	X†								X		†
262	319	„ <i>ruficauda</i> , <i>Sws.</i> .....					X	X						X	X	X	X		
263	307	„ <i>mandellii</i> , <i>Hume.</i> .....															X		†
264	307 bis.	„ <i>olivacea</i> , <i>Hume.</i> .....															X		
265	307 ter.	„ <i>leucomelanura</i> , <i>Hodgs.</i> .....						X	X										†
266	320	„ <i>cerviniventris</i> , <i>Sharpe</i> .....								†									
267		„ <i>moniliger</i> , <i>Hodgs.</i> .....						X		§								X	
268	317	„ <i>submoniliger</i> , <i>Hume</i> .....																X	
269	317 bis.	„ <i>sundara</i> , <i>Hodgs.</i> .....					X	X	X	§								X	
270	314	„ <i>vidua</i> , <i>Swinh.</i> .....						X	X									X	
271		„ <i>grandis</i> , <i>Bly.</i> .....						X	X†		X	X						X	
272	316	„ <i>leucoprocta</i> , <i>Tweed.</i> .....							X†									X	
273		„ <i>macgrigoræ</i> , <i>Burt.</i> .....						X	X†									X	
274	315	<i>Sylvia cinerea</i> .....	X	X	X	X	X	X	X					X	X	X	X	X	
275		„ <i>jerdoni</i> , <i>Bly.</i> .....	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	
276	581	„ <i>affinis</i> , <i>Bly.</i> .....	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	
277	582	„ <i>althæa</i> , <i>Hume.</i> .....	X			X	X	X	X		X					X	X		
278	582 ter.	„ <i>minnacula</i> , <i>Hume</i> .....	X	X	X	X	X	X	X		X			X	X	X	X		
279	582 bis.	„ <i>nana</i> , <i>Hemp.</i> .....	X	X	X	X	X	X	X		X			X	X	X	X		
280	583 bis.	„ <i>familiaris</i> , <i>Mend.</i> .....	X	X	X	X				X				X	X				
281		<i>Phylloscopus borealis</i> , <i>Blas.</i> .....	X	X	X	X	X	X	X		X						X		
282	556 bis.	„ <i>pitidus</i> , <i>Bly.</i> .....	X	X			X	X	X		X						X		
283	559	„ <i>viridanus</i> , <i>Bly.</i> .....	X	X			X	X	X		X						X		
284	560	„ <i>plumbeitarsus</i> , <i>Swinh.</i> .....																X	
285	558 bis.	„ <i>tenellipes</i> , <i>Swinh.</i> .....					X	X	X		X						X		
286	556 qt.	„ <i>magistrostris</i> , <i>Bly.</i> .....					X	X	X		X				X	X	X	X	
287	556						X	X	X		X				X	X	X	X	

† Sikkim.



No. in. Africa.	Jerdon's. Nos.	SPECIES.	Sind.	Baluchistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
288	558	<i>Phylloscopus lugubris</i> , Bly.	...	...	...	...	...	×	×	×	...	×	×	•	...	...	...	×	×	×
289	563	„ <i>occipitalis</i> , Jerd.	×	...	...	...	×	×	×	×	...	×	×	...	...	...	...	×	×	×
290	564	„ <i>coronatus</i> , Tem.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	×	...
291	564	} „ <i>reguloides</i> , Bly.	...	...	...	...	...	×	×	×	...	...	...	...	...	...	...	×	×	×
	567		...	...	...	...	...	×	×	×	...	...	...	...	...	...	...	×	×	×
292		„ <i>viridipennis</i> , Bly.	...	...	...	...	...	×	×	×	...	×	×	...	×	×	×	×	×	×
293	554	„ <i>tristis</i> , Bly.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...
294	561	„ <i>affinis</i> , Tick.	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	×	×	×
295	560bis.	„ <i>tyleri</i> , Brooks.	...	...	...	...	...	×	×	×	×	×	×	...	...	...	...	×	×	×
296	565bis.	„ <i>humii</i> , Brooks.	...	...	...	×	×	×	×	×	×	×	×	...	...	...	...	×	...	×
297	565	„ <i>supercilius</i> , <i>Gm.</i>	...	...	...	×	×	×	×	×	×	×	×	...	...	...	...	×	×	×
298	566ter.	„ <i>maculipennis</i> , <i>Blyth</i>	...	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×
299	566	„ <i>proregulus</i> , <i>Pall.</i>	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	...	×	×
300	568	„ <i>pulcher</i> , <i>Hodgs</i>	...	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	×	×
301	566bis.	„ <i>subviridis</i> , <i>Brooks</i>	×	...	...	×	×	×	...	...	...	...	...	...	...	...	...	...	×	...
302		„ <i>sindianus</i> , Brooks.	×	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
303	553ter.	<i>Hypolais pallida</i> , Hemp.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...
304	553	„ <i>rama</i> , Sykes.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...
305	553bis.	„ <i>caligata</i> , Licht.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...
306	517bis.	„ <i>obsoleta</i> , Severts.	×	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
307		<i>Acrocephalus bistrigiceps</i> , <i>Swinh.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
308	515bis.	„ <i>orientalis</i> , Tem.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
309	515	„ <i>stentoreus</i> , <i>Hemp.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
310	516	„ <i>dumetorum</i> , <i>Bly</i>	×	...	...	...	...	×	×	×	×	×	×	×	×	×	×	×	×	×
311	517	„ <i>agricola</i> , Jerd.	×	×	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
312	520	} <i>Locustella certhiola</i> , Pall.	...	...	...	...	...	×	×	×	...	×	...	...	...	...	...	...	×	...
	521		...	...	...	...	...	×	×	×	...	×	...	...	...	...	...	...	×	...
313		„ <i>traminea</i> , <i>Severts.</i>	...	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	×	...
314		„ <i>lanceolata</i> , Tem.	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...
315	518	<i>Luscinola sdon</i> , Pall.	...	...	...	...	×	×	×	×	...	...	...	...	...	×	...	×	×	×
316	519bis.	„ <i>thoracica</i> , Bly.	...	...	...	...	×	×	×	×	...	...	...	...	...	...	...	...	×	...
317	522	„ <i>luteiventris</i> , <i>Hodgs</i>	...	...	...	...	×	×	×	×	...	...	...	...	...	...	...	...	×	...
318	562	„ <i>indica</i> , Jerd.	...	...	...	...	×	×	×	×	×	×	×	...	×	...	...	×	×	...
319	555	„ <i>fuscatus</i> , Bly.	...	...	...	...	×	×	×	×	×	×	×	...	...	...	...	×	×	...
320	556ter.	„ <i>schwarzi</i> , Radde.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...	...
321		„ <i>fuliginiventris</i> , <i>Hodgs.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...	...
322	554bis.	„ <i>neglectus</i> , Hume.	×	×	×	...	×	×	×	...	...	...	...	...	...	...	...	...	×	...

\* Malabar Coast.

† Andamans.

‡ Sikkim.

§ Assam.

BRITISH INDIA AND ITS DEPENDENCIES.

No. in Africa.	Jerdon's Nos.	SPECIES.	Blind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Coconan.	Deccan.	S. India.	British Borneo.	Nepal.
323		<i>Luscinola melanopogon</i> , <i>Tem.</i> .....	x	x	x	x	x	x	x											
324		<i>Cettia cetti</i> , <i>Merm.</i> .....	x	x	x	x														
325	526	<i>Cettia fortipes</i> , <i>Hodgs.</i> .....								x									x	x
326	552	<i>Cettia flavo-olivacea</i> , <i>Hodgs.</i> .....								x									x	x
327		<i>Cettia pallidipes</i> , <i>Blanf.</i> .....								x									x	x
328	527	<i>Cettia brunneifrons</i> , <i>Hodgs.</i> .....																	x	x
329	529	<i>Cettia major</i> , <i>Hodgs.</i> .....																	x	x
330	442	<i>Schœnicola platyura</i> , <i>Jerd.</i> .....																x		
331	443	<i>Laticilla burnesi</i> , <i>Blyth.</i> .....	x				x	x	x											
332		<i>Laticilla cinerascens</i> , <i>Wald.</i> .....								x										
333	440	<i>Megalurus palustris</i> , <i>Horsf.</i> .....					x	x	x	x		x	x						x	
334	441	<i>Chætornis locustelloides</i> , <i>Blyth.</i> .....								x		x						x		
335	547	<i>Suya crinigera</i> , <i>Hodgs.</i> .....	x				x	x	x										x	x
336	549	<i>Suya atrigularis</i> , <i>Hodgs.</i> .....																	x	x
337		<i>Suya khasiana</i> , <i>Godw. Aust.</i> .....																		
338		<i>Suya albigularis</i> , <i>Hume.</i> .....																	x	
339		<i>Suya superciliaris</i> , <i>Anderson.</i> .....																	x	
340	548, 544	<i>Prinia inornata</i> , <i>Sykes.</i> .....	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x
341	545	<i>Prinia sylvatica</i> , <i>Jerd.</i> .....	x				x	x	x	x	x	x	x	x	x	x	x	x		x
342	532	<i>Burnesia flaviventris</i> , <i>Deless.</i> .....	x					x	x	x										
343	584, 535	<i>Burnesia socialis</i> , <i>Sykes.</i> .....					x	x	x	x	x	x	x	x	x	x	x	x		x
344	550	<i>Burnesia lepida</i> , <i>Blyth.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
345		<i>Sootocerca inquieta</i> , <i>Sund.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
346	530	<i>Sutoria sutoria</i> , <i>Forst.</i> .....	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x
347		<i>Sutoria atrigularis</i> , <i>Tem.</i> .....								x									x	
348		<i>Sutoria ruficeps</i> , <i>Less.</i> .....																	x	
349	531	<i>Phyllergates coronatus</i> , <i>Jerd. and Blyth.</i> .....								x									x	x
350	542	<i>Graminicola bengalensis</i> , <i>Jerd.</i> .....								x										
351	551	<i>Cisticola buehanani</i> , <i>Blyth.</i> .....	x				x	x	x	x	x	x	x	x	x	x	x	x		
352	536	<i>Cisticola gracilis</i> , <i>Franklin.</i> .....								x		x	x				x	x	x	x
353		<i>Cisticola beavani</i> , <i>Wald.</i> .....																	x	x
354		<i>Cisticola cinereicapilla</i> , <i>Moore.</i> .....							x											x
355	537	<i>Cisticola poliocephala</i> , <i>Anderson.</i> .....							x											x
356	539	<i>Cisticola cisticola</i> , <i>Tem.</i> .....	x				x	x				x	x	x	x	x	x	x		x
357	540	<i>Cisticola exilis</i> , <i>Vig. and</i> <i>Horsf.</i> .....								x					x		x	x	x	x
358	371	<i>Geocichla dauma</i> , <i>Lath.</i> .....					x	x	x	x		x	x				x	x	x	x
359	372	<i>Geocichla nilgiriensis</i> , <i>Bly.</i> .....																	x	
360	370	<i>Geocichla mollissima</i> , <i>Bly.</i> .....						x												x
361		<i>Geocichla dixonii</i> , <i>Seesh.</i> .....											x							x
362	350	<i>Geocichla monticola</i> , <i>Vig.</i> .....						x		x										x

Malabar.

‡ Sikkim.

§ Assam.

|| Khasia Hills.

No in Avifauna.	Jerdon's Nos.	SPECIES.	Sind	Beloachistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Judh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch	Guzerat.	Conkan.	Deccan.	S. India.	British Burmah.	Nepaul.
363		<i>Geocichla marginata</i> , <i>Bly...</i>				X				§									X	†
364	354	<i>Geocichla cyanonotus</i> , <i>Lath.</i>								X		X					X		X	
365	355	<i>Geocichla citrina</i> , <i>Bly...</i>					X			X		X						X	X	†
366	357	<i>Geocichla wardi</i> , <i>Jerd.</i>					X											X	X	
367		<i>Geocichla sibirica</i> , <i>Pall.</i>																	X	
368	369	<i>Turdus iliacus</i> , <i>Lin.</i>					X													
369	368	<i>Turdus viscivorus</i> , <i>Lin.</i>					X		X											X
370	367	<i>Turdus pilaris</i> , <i>Lin.</i>					X													
371	362	<i>Merula albocincta</i> , <i>Royle.</i>								X										†
372	361	<i>Merula boulboul</i> , <i>Lath.</i>					X			§										†
373	359	<i>Merula nigropileus</i> , <i>Lafr.</i>								X						X		X		
374	360	<i>Merula similima</i> , <i>Jerd.</i>																X		
375		<i>Merula Bourdilloni</i> , <i>Seebh.</i>																X		
376	363	<i>Merula castanea</i> , <i>Gould.</i>						X												†
377		<i>Merula fuscata</i> , <i>Bechst.</i>						X		§										†
378		<i>Merula protomomelana</i> , <i>Cab.</i>																		
379	365	<i>Merula atrigularis</i> , <i>Tem.</i>	X	X	X	X	X	X	X	X										X
380	364	<i>Merula ruficollis</i> , <i>Pall.</i>						X		§										X
381	366	<i>Merula unicolor</i> , <i>Tick.</i>	X				X	X	X		X	X					X	X		X
382		<i>Merula obscurus</i> , <i>Gmel.</i>						X		§									X	
383		<i>Merula pallida</i> , <i>Gmel.</i>								X									X	X
384		<i>Monticola saxatilis</i> , <i>Lin.</i>			X	X		X											X	
385	351	<i>Monticola cyaneus</i> , <i>Lin.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
386	353	<i>Monticola cinclorhynchus</i> , <i>Vig.</i>	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
387	352	<i>Monticola erythrogaster</i> , <i>Vig.</i>		X			X	X		§									X	†
388	507	<i>Erithacus brunneus</i> , <i>Jerd.</i>						X		X								X		†
389		<i>Erithacus cyaneus</i> , <i>Pall.</i>						X											X	
390	512	<i>Erithacus calliope</i> , <i>Gmel.</i>								X		X					X		X	
391	513	<i>Erithacus pectoralis</i> , <i>Gould.</i>					X	X		§										X
392		<i>Erithacus tschebaiewi</i> , <i>Prejv.</i>																		†
393	514	<i>Erithacus cæruleculus</i> , <i>Jerd.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
394	478	<i>Sialia cælicolor</i> , <i>Hodgs.</i>						X												X
395	495	<i>Ruticilla phœnicurus</i> , <i>Lin.</i>			X	X	X	X												
396		<i>Ruticilla mesoleuca</i> , <i>Hemp.</i>	X		X															
397	497	<i>Ruticilla rufiventris</i> , <i>Vieill.</i>	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X
398	498	<i>Ruticilla Hodgsoni</i> , <i>Moore.</i>			X	X				§										†
399	500	<i>Ruticilla aurea</i> , <i>Gmel.</i>								X									X	
400	499	<i>Ruticilla erythrogastra</i> , <i>Gill.</i>							X											X
401		<i>Ruticilla erythronota</i> , <i>Everm.</i>			X	X		X												X
402	503	<i>Ruticilla frontalis</i> , <i>Vig.</i>					X	X		§										†

† Sikkim.

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No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
403	501	<i>Ruticilla schisticeps</i> , <i>Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
404	504	<i>Ruticilla cæruleocephala</i> , <i>Fig.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
405	494	<i>Myrmecocichla fusca</i> , <i>Blyth</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
406		<i>Saxicola albonigra</i> , <i>Hume</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
407	480	<i>Saxicola picata</i> , <i>Ily.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
408		<i>Saxicola capistrata</i> , <i>Hemp.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
409		<i>Saxicola monacha</i> , <i>Rüpp.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
410		<i>Saxicola morio</i> , <i>Hemp. et</i> <i>Ehr.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
411	488	<i>Saxicola opistholeuca</i> , <i>Strickl.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
412	492	<i>Saxicola deserti</i> , <i>Rüpp.</i> ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
413		<i>Saxicola chrysopygia</i> , <i>DeF.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
414	491	<i>Saxicola isabellina</i> , <i>Rüpp.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
415		<i>Ægithina viridissima</i> , <i>Tem.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
416	468	<i>Ægithina tiphia</i> , <i>Lin.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
417		<i>Ægithina nigrolutea</i> , <i>Marsh.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
418		<i>Aethorhynchus Lafresnayii</i> , <i>Hartl.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
419	466	<i>Chloropsis Hardwickii</i> , <i>Jerd.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
420	465	<i>Chloropsis aurifrons</i> , <i>Tem.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
421	464	<i>Chloropsis malabaricus</i> , <i>Gm.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
422		<i>Chloropsis zosterops</i> , <i>Fig.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
423	463	<i>Chloropsis Jerdoni</i> , <i>Bly.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
424		<i>Chloropsis chlorocephala</i> , <i>Wald.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
425		<i>Chloropsis cyanopogon</i> , <i>Tem.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
426	444	<i>Hypsipetes psaroides</i> , <i>Fig.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
427		<i>Hypsipetes concolor</i> , <i>Bly.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
428	445	<i>Hypsipetes ganesa</i> , <i>Sykes.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
429	448	<i>Hemixus flavala</i> , <i>Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
430		<i>Hemixus hildebrandti</i> , <i>Hume.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
431		<i>Hemixus Davisoni</i> , <i>Hume.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
432		<i>Hemixus malaccensis</i> , <i>Blyth</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
433		<i>Iole viridescens</i> , <i>Bly. p.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
434	447	<i>Iole MacClellandi</i> , <i>Horsf.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
435		<i>Iole Tickelli</i> , <i>Bly.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
436		<i>Pinarocichla euptilosa</i> , <i>Jard. &amp; Selb.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
437		<i>Micropus melanocephalus</i> , <i>Gmel.</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
438		<i>Micropus fusciflavescens</i> , <i>Hume</i> .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Andamans.

‡ Sikkim.

§ Anam.

|| Khasia Hills.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
439		<i>Micropus cinereiventris</i> , <i>Blyth.</i> .....																	X	
440	457	<i>Micropus phaeocephalus</i> , <i>Jerd.</i> .....														*		X		
441		<i>Criniger phaeocephalus</i> , <i>Hartl.</i> .....																	X	
442	451	<i>Criniger flaveolus</i> , <i>Gould.</i> .....								§									X	†
443		<i>Criniger griseiceps</i> , <i>Hume.</i> .....																	X	
444		<i>Criniger gutturalis</i> , <i>Bp.</i> .....																	X	
445		<i>Tricholestes criniger</i> , <i>Bly.</i> .....																	X	
446	449	<i>Alcurus striatus</i> , <i>Bly.</i> .....								¶									X	†
447		<i>Trachycomus ochrocephalus</i> , <i>Gmel.</i> .....																	X	
448	450	<i>Xenocichla icterica</i> , <i>Strickl.</i> .....														*		X		
449	462	<i>Pycnonotus hæmorrhous</i> , <i>Gm.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X		
450		<i>Pycnonotus burmanicus</i> , <i>Sharpe.</i> .....																	X	
451		<i>Pycnonotus nigrripileus</i> , <i>Bp.</i> .....																	X	
452		<i>Pycnonotus atricapillus</i> , <i>Vieil.</i> .....																	X	
453	461	<i>Pycnonotus pygæus</i> , <i>Hodgs.</i> .....				X	X	X	X	¶		X								†
454	459	<i>Pycnonotus leucotis</i> , <i>Gould.</i> .....	X	X	X	X	X	X	X	¶	X	X	X	X	X	X	X	X		
455		<i>Pycnonotus analis</i> , <i>Horsf.</i> .....																	X	
456		<i>Pycnonotus flavescens</i> , <i>Bly.</i> .....																	X	
457	452	<i>Pycnonotus luteolus</i> , <i>Less.</i> .....								X	X					*		X		
458		<i>Pycnonotus Finlaysoni</i> , <i>Strickl.</i> .....																	X	
459		<i>Pycnonotus Davisoni</i> , <i>Hume</i> .....																	X	
460	453	<i>Pycnonotus xantholæmus</i> , <i>Jerd.</i> .....																	X	
461		<i>Pycnonotus Blanfordi</i> , <i>Jerd.</i> .....																	X	
462		<i>Pycnonotus plumosus</i> , <i>Blyth</i> .....																	X	
463		<i>Pycnonotus simplex</i> , <i>Less.</i> .....																	X	
464		<i>Pycnonotus salvadorii</i> , <i>Sharpe</i> .....																	X	
465	460	<i>Otocompsa jocosa</i> , <i>Lin.</i> .....					X	X	X	¶							X		X	†
466		<i>Otocompsa emeria</i> , <i>Lin.</i> .....														X	X	X		
467	458	<i>Otocompsa leucogenys</i> , <i>E. Gr.</i> .....									X									†
468	456	<i>Otocompsa flaviventris</i> , <i>Tiet.</i> .....						X	X			X				*			X	†
469	455	<i>Rubigula gularis</i> , <i>Gould</i> .....																	X	
470		<i>Rubigula cyaniventris</i> , <i>Bly.</i> .....																	X	
471		<i>Spizixus canifrons</i> , <i>Bly.</i> .....																		
472	338	<i>Urocichla longicaudata</i> , <i>Moore</i> .....																		

\* Malabar.

† Sikkim.

§ Assam.

|| Khasi Hills.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Coonan.	Deccan.	S. India.	British Burmah.	Nepaul.
473	333	<i>Anorthura nipalensis</i> , <i>Hodgs.</i> .....						X												xt
474		<i>Anorthura formosa</i> , <i>Wald.</i> .....								S										
475		<i>Sphenocichla humii</i> , <i>Mandell.</i> .....																		†
476	329	<i>Pnoepyga albiveptis</i> , <i>Hodgs.</i> .....						X											X	xt
477	330	<i>Pnoepyga pusilla</i> , <i>Hodgs.</i> .....																	X	X
478	331	<i>Pnoepyga caudata</i> , <i>Bly.</i> .....						X												xt
479	348	<i>Cinclus cashmeriensis</i> , <i>Gould.</i> .....			X															xt
480	347	<i>Cinclus asiaticus</i> , <i>Swains.</i> .....				X	X	X	X											X
481	343	<i>Myiophonus Temmincki</i> , <i>Vig.</i> .....				X		X												xt
482		<i>Myiophonus Eugeniei</i> , <i>Hume.</i> .....																	X	
483	342	<i>Myiophonus Horsfieldi</i> , <i>Vig.</i> .....										X	X					X		
484	440	<i>Callene frontalis</i> , <i>Blyth.</i> .....																		†
485		<i>Callene albiventris</i> , <i>Blanf.</i> .....																X		
486	339	<i>Callene rufiventris</i> , <i>Jerd.</i> .....																X		
487	477	<i>Notodola leucura</i> , <i>Hodgs.</i> .....																	X	xt
488	338	<i>Brachypteryx cruralis</i> , <i>Hodgs.</i> .....																	X	xt
489	337	<i>Brachypteryx hyperythra</i> , <i>Jerd. and Bly.</i> .....																		†
490	336	<i>Brachypteryx nipalensis</i> , <i>Moore.</i> .....																	X	xt
491		<i>Brachypteryx stellata</i> , <i>Gould.</i> .....																		†
492	506	<i>Chimarrornis leucocephala</i> , <i>Vig.</i> .....				X	X											X	X	xt
493	479	<i>Thamnobia fulcata</i> , <i>L.</i> .....										X					X	X	X	
494	480	<i>Thamnobia cambaiensis</i> , <i>Lath.</i> .....	X			X	X	X	X	X	X	X	X	X	X		X	X	X	X
495	475	<i>Copsychus saularis</i> , <i>L.</i> .....				X	X		xt		X	X				X	X	X	X	xt
496	613	<i>Lioptila annectens</i> , <i>Blyth.</i> .....																	X	†
497	341	<i>Hodgsonius phoenicuroides</i> , <i>Hodgs.</i> .....						X	X										X	
498	476	<i>Cittocincla tricolor</i> , <i>Vicill.</i> .....							xt		X							X	X	xt
499		<i>Cittocincla albiventris</i> , <i>Blyth.</i> .....								†										
500		<i>Hemicurus leschenaulti</i> , <i>Vicill.</i> .....								§										X

\* Malabar † Andamans. ‡ Sikkim. § Assam. || Khasia Hills.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Katch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
501	585	<i>Henicurus immaculatus</i> , <i>Hodgs.</i>									§								×	×
502	586	<i>Henicurus schistaceus</i> , <i>Hodgs.</i>																	×	×
503		<i>Henicurus guttatus</i> , <i>Gould.</i>																	×	×
504	584	<i>Henicurus maculatus</i> , <i>Vig.</i>						×		§									×	†
505		<i>Hydrocichla ruficapilla</i> , <i>Temm.</i>							σ										×	
506		<i>Hydrocichla frontalis</i> , <i>Lyth.</i>																	×	
507	587, 588	<i>Microcichla scouleri</i> , <i>Vig.</i>						×		§									×	
508	419	<i>Trochalopteryx affine</i> , <i>Blyth.</i>								§										×
509	418	<i>Trochalopteryx variegata</i> , <i>Vig.</i>					×	×												×
510	415	<i>Trochalopteryx erythrocephala</i> , <i>Hodgs.</i>						×												×
511	416	<i>Trochalopteryx chrysoptera</i> , <i>Gould.</i>						×												×
512		<i>Trochalopteryx ruficapilla</i> , <i>Blyth.</i>																		×
513		<i>Trochalopteryx erythroloema</i> , <i>Hume.</i>																		
514		<i>Trochalopteryx melanostigma</i> , <i>Blyth.</i>								¶										
515	421	<i>Trochalopteryx rufigularis</i> , <i>Gould.</i>						×	×										×	
516		<i>Trochalopteryx cineracea</i> , <i>Godw.-Aust.</i>																		×
517	420	<i>Trochalopteryx squamata</i> , <i>Gould.</i>								¶										
518	417	<i>Trochalopteryx subunicolor</i> , <i>Blyth.</i>																		×
519		<i>Trochalopteryx austeni</i> , <i>Jerd.</i>																		×
520	422	<i>Trochalopteryx phoeniceum</i> , <i>Gould.</i>									A									×
521	423	<i>Trochalopteryx cachinans</i> , <i>Jerdon.</i>																	×	
522	424	<i>Trochalopteryx Jerdoni</i> , <i>Blyth.</i>																	×	
523		<i>Trochalopteryx Fairbanki</i> , <i>Blanf.</i>																	×	
524		<i>Trochalopteryx meridionale</i> , <i>Blanf.</i>																	×	
525	425	<i>Trochalopteryx lineatum</i> , <i>Vig.</i>							×										×	×

A. N.-E. Bengal Hills. † Andamans. ‡ Sikkim. § Assam. || Khasia Hills. ¶ Manipur Hills.

No. in Aristauna.	Jerdon's No.	SPECIES.	Sind.	Belochoistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
526	426	<i>Trochalopteron imbricatum</i> , <i>Blyth</i> .....								B										
527		<i>Trochalopteron virgatum</i> , <i>Godw.-Aust.</i> .....									B									
528	431	<i>Acanthoptila nipalensis</i> , <i>Hodgs.</i> .....						X												X
529	414	<i>Ianthocincla ocellata</i> , <i>Fig.</i> .....																		X
530	384	<i>Gampsorhynchus rufulus</i> , <i>Blyth</i> .....																	X	X
531		<i>Gampsorhynchus torquatus</i> , <i>Hume</i> .....																		X
532	437	<i>Argya subrufa</i> , <i>Jerd.</i> .....															X	X		
533		<i>Argya hyperythra</i> , <i>Sharpe</i> .....															X	X		
534	439	<i>Argya carlii</i> , <i>Blyth</i> .....	X							X							X	X		
535	438	<i>Argya caudata</i> , <i>Drap.</i> .....	X			X	X	X		X	X	X	X	X	X	X	X	X	X	
536		<i>Argya eclipses</i> , <i>Hume</i> .....				X											X	X		
537		<i>Argya gularis</i> , <i>Blyth</i> .....																	X	
538	436	<i>Argya Malcolmii</i> , <i>Sykes</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X	X	
539	430	<i>Sibia picoides</i> , <i>Hodgs.</i> .....																	X	X
540	429	<i>Malacias capistrata</i> , <i>Fig.</i> .....						X												X
541		<i>Malacias melanoleuca</i> , <i>Blyth</i> .....																	X	
542		<i>Malacias gracilis</i> , <i>McClell.</i> .....																		
543		<i>Malacias pulchella</i> , <i>Godw.-Aust.</i> .....																		X
544	402	<i>Pomatorhinus schisticeps</i> , <i>Hodgs.</i> .....									B								X	
545		<i>Pomatorhinus pinwilli</i> , <i>Sharpe</i> .....					X													
546	404	<i>Pomatorhinus Horsfieldi</i> , <i>Sykes</i> .....															X			
547		<i>Pomatorhinus ochraceiceps</i> , <i>Wald.</i> .....																	X	
548		<i>Pomatorhinus Austeni</i> , <i>Hume</i> .....																		
549	401	<i>Pomatorhinus ferruginosus</i> , <i>Hodgs.</i> .....																		X
550		<i>Pomatorhinus Phayrii</i> , <i>Blyth</i> .....																		
551		<i>Pomatorhinus albigularis</i> , <i>Blyth</i> .....																	X	
552		<i>Pomatorhinus stenorhynchus</i> , <i>Godw.-Aust.</i> .....																		
553	400	<i>Pomatorhinus ruficollis</i> , <i>Hodgs.</i> .....																		X

B. Bhootan. D. Naga Hills. † Sikkim. § Assam || Khasia Hills. ¶ Manipur Hills.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
554		<i>Pomatorhinus hypoleucus</i> , <i>Blyth</i> .....																	X	..
555		<i>Pomatorhinus Tickelli</i> , <i>Blyth</i> .....																	X	..
556	405	<i>Pomatorhinus erythroge-</i> <i>nys, Vig.</i> .....					X	X	X	xi								...	X	xs
557		<i>Pomatorhinus Maclellandi</i> , <i>Jerd.</i> .....								S										
558	406	<i>Xiphoramphus supercili-</i> <i>aris, Blyth</i> .....																		†
559	407	<i>Garrulax leucolophus</i> , <i>Hardw.</i> .....						X											X	..
560		<i>Garrulax belangeri, Bess.</i> ...																	X	..
561		<i>Garrulax diardi, Less.</i> .....																	X	..
562	411	<i>Garrulax albigularis</i> , <i>Gould.</i> .....						X		B										xt
563	412	<i>Garrulax pectoralis, Gould.</i> ...								E									X	xt
564	413	<i>Garrulax moniliger, Hodgs.</i> ...																	X	X
565		<i>Garrulax galbanus, Godw.-</i> <i>Aust.</i> .....								¶										
566		<i>Garrulax gularis, McClell.</i> ...								S										
567	409	<i>Garrulax delesserti, Jerd.</i> ...																X		
568		<i>Stactocichla merulina</i> , <i>Blyth</i> .....								D										
569	382	<i>Grammatoptila striata, Vig.</i> ...					X	X		B										xt
570	410	<i>Dryonastes rufocollis, Jard</i> <i>&amp; Selb.</i> .....								S									X	xt
571		<i>Dryonastes chinensis, Scop.</i> ...																	X	
572		<i>Dryonastes nuchalis, Godw.-</i> <i>Aust.</i> .....								D										
573		<i>Dryonastes strepitans, Tick.</i> ...																	X	
574		<i>Dryonastes sannio, Swinh.</i> ...																		
575	408	<i>Dryonastes caerulatus</i> , <i>Hodgs.</i> .....								D										xt
576		<i>Dryonastes subcaerulatus</i> , <i>Hume</i> .....								D										
577	427	<i>Actinodura Egertoni, Gould.</i> ...								D										xt
578		<i>Actinodura Ramsayi, Wald.</i> ...																	X	xt
579		<i>Actinodura Waldeni, Godw.-</i> <i>Aust.</i> .....								¶									X	..
580	428	<i>Actinodura nipalensis</i> , <i>Hodgs.</i> .....								S										xt
581		<i>Actinodura Daffaensis</i> , <i>Godw.-Aust.</i> .....								K										
582		<i>Actinodura Oglei, Godw.-</i> <i>Aust.</i> .....								S									X	..
583	433, 434	<i>Crateropus canorus, Linn.</i> ...	X				X	X	X	X									X	..
584	433	<i>Crateropus griseus, Gmel.</i> ...															X	X		..

D. Naga Hills.

E. Garo Hills.

B. Shoochan.

K. Daffa Hills.

† Shikim.

§ Assam.

| Khasia Hills.

¶ Manipal Hills.

No. in Arrang.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
585	435	<i>Crateropus Somervillii</i> , <i>Sykes</i> .....															×	×		
586	381	<i>Conostoma semodium</i> , <i>Hodgs</i> .....																		
587		<i>Suthora Humii</i> , <i>Sharpe</i> .....																		xt
588	379	<i>Suthora poliotis</i> , <i>Blyth</i> .....								D	P	K								xt
589	378	<i>Suthora nipalensis</i> , <i>Hodgs</i> .....																		
590	375	<i>Suthora ruficeps</i> , <i>Blyth</i> .....								B									×	xt
591	374	<i>Suthora gularis</i> , <i>Gray</i> .....																		xt
592	376	<i>Suthora unicolor</i> , <i>Hodgs</i> .....																		xt
593	377	<i>Chleuasicus ruficeps</i> , <i>Blyth</i> .....																		†
594	380	<i>Chleuasicus fulvifrons</i> , <i>Hodgs</i> .....																		xt
595	373	<i>Paradoxornis flavirostris</i> , <i>Gould</i> .....																		xt
596		<i>Paradoxornis guttaticollis</i> , <i>David</i> .....																		
597	396	<i>Timelia pileata</i> , <i>Horsf</i> .....									B								×	xt
598		<i>Timelia longirostris</i> , <i>Moore</i> .....																		
599	385	<i>Pycnorhis sinensis</i> , <i>Gmel</i> .....	×				×	×	×	×	×	×	×	×	×	×	×	×	×	×
600	386	<i>Pycnorhis altirostris</i> , <i>Jerd</i> .....								§	B								×	
601	398	<i>Dumetia albigularis</i> , <i>Blyth</i> .....													×		×	×		
602	397	<i>Dumetia hyperythra</i> , <i>Frankl</i> .....												×			×			†
603		<i>Pellorneum nipalense</i> , <i>Hodgs</i> .....								×										xt
604		<i>Pellorneum intermedium</i> , <i>Sharpe</i> .....									L								×	
605	399	<i>Pellorneum ruficeps</i> , <i>Swains</i> .....															×	×		
606		<i>Pellorneum subochraceum</i> , <i>Swinh</i> .....																	×	
607		<i>Pellorneum palustre</i> , <i>Gould</i> .....								§										
608	391	<i>Stachyris nigriceps</i> , <i>Hodgs</i> .....									B								×	xt
609		<i>Stachyris guttata</i> , <i>Blyth</i> .....																		xt
610	387	<i>Turdinus Abbotti</i> , <i>Blyth</i> .....								×									×	×
611		<i>Turdinus magnirostris</i> , <i>Moore</i> .....																		
612		<i>Erythrocichla bicolor</i> , <i>Less</i> .....																	×	
613		<i>Drymocapthus nigricapitatus</i> , <i>Eyton</i> .....																		×
614		<i>Drymocapthus ignotus</i> , <i>Hume</i> .....								×										
615		<i>Drymocapthus Assamensis</i> , <i>Sharpe</i> .....								§										
616		<i>Drymocapthus Tickelli</i> , <i>Blyth</i> .....																		×

D. Naga Hills.

P.

K. Dada Hills.

L. Cachar.

E. Bhootan.

\* Malabar.

† Andamans.

‡ Sikkim.

§ Assam.

|| Khasia Hills.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Province.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutob.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
617		<i>Drymocapthus rubiginosus, Wald.</i>																		X
618		<i>Gypsophila crispifrons, Blyth.</i>																		X
619		<i>Trichostoma rostratum, Blyth.</i>																		X
620		<i>Malacopteryx magnum, Eyton.</i>																		X
621		<i>Mixornis gularis, Raffles.</i>																		X
622	395	<i>Mixornis rubricapilla, Tick.</i>																		X
623		<i>Mixornis erythroptera, Blyth.</i>																		X
624		<i>Corythocichla brevicaudata, Blyth.</i>																		X
625		<i>Corythocichla striata, Wald.</i>																		X
626		<i>Turdinulus murinus, Blyth.</i>																		X
627	335	<i>Rimator malacoptilus, Blyth.</i>																		X
628	393	<i>Stachyridopsis ruficeps, Blyth.</i>																		X
629		<i>Stachyridopsis rufifrons, Hume.</i>																		X
630	392	<i>Stachyridopsis pyrrhops, Hodgs.</i>						X												X
631	394	<i>Stachyridopsis chrysea, Hodgs.</i>																		X
632		<i>Stachyridopsis assimilis, Wald.</i>																		X
633	327	<i>Oligura castaneocoronata, Burt.</i>																		X
634	328	<i>Oligura cyaniventris, Hodgs.</i>																		X
635	618	<i>Minla igneotincta, Hodgs.</i>																		X
636	619	<i>Minla castaneiceps, Hodgs.</i>																		X
637		<i>Minla brunneicauda, Sharpe.</i>																		X
638	620	<i>Minla cinerea, Blyth.</i>																		X
639		<i>Minla rufigularis, Mandelli.</i>																		X
640		<i>Minla mandelli, Godwin-Austen.</i>																		X
641		<i>Minla dubia, Hume.</i>																		X
642	623	<i>Ixulus flavicollis, Hodgs.</i>						X												X
643	624	<i>Ixulus occipitalis, Blyth.</i>																		X
644		<i>Ixulus humilis, Hume.</i>																		X
645		<i>Staphidea castaneiceps, Moore.</i>																		X
646		<i>Staphidea rufigenis, Hume.</i>																		X
647	625	<i>Staphidea striata, Blyth.</i>						X												X
648	622	<i>Alcippe vinipectus, Hodgs.</i>						X												X

B. Bhootan. L. Oochar. ‡ Sikkim. § Khasia Hills. ¶ Manipal Hills.

No. in Africa.	Jerdon's No.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Cach.	Bengal.	Rajputana.	Central India.	Central Prov.	Katc b.	Guzerat.	Cosean.	Deccan.	S. India.	British Burmah.	Nepal.
649	388	<i>Alcippe nipalensis, Hodgs.</i>	..	..	..	..	..	..	..		L	B	..	..	..	..	..	..	×	..
650	389	<i>Alcippe phaeocephala, Jerd.</i>	..	..	..	..	..	..	..	×	×	..	..	..	..	..	×	×	×	..
651		<i>Alcippe Phayrii, Blyth.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×	..
652	390	<i>Alcippe atriceps, Jerd.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×	..
653		<i>Alcippe Bourdilloni, Hume.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×	..
654	621	<i>Alcippe chryseus, Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
655	626	<i>Yuhina gularis, Hodgs.</i>	..	..	..	..	..	..	..		B	..	..	..	..	..	..	..	×	×
656	627	<i>Yuhina occipitalis, Hodgs.</i>	..	..	..	..	..	..	..	..	B	..	..	..	..	..	..	..	×	×
657	628	<i>Yuhina nigrimentum, Hodgs.</i>	..	..	..	..	×	..	..	..	D	..	..	..	..	..	..	..	×	×
658	629	<i>Myzornis pyrrhura, Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
659	630	<i>Herpornis xantholeuca, Hodgs.</i>	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	×	×
660	616	<i>Siva strigula, Hodgs.</i>	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	×	×
661		<i>Siva castaneicauda, Hume.</i>	..	..	..	..	..	..	..	..	B	..	..	..	..	..	..	..	×	×
662	617	<i>Siva cyanoptera, Hodgs.</i>	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	×	×
663		<i>Siva sordida, Hume.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
664	615	<i>Mesia argentauris, Hodgs.</i>	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	×	×
665	614	<i>Liothrix lutea, Scop.</i>	..	..	..	..	×	..	..	..	B	..	..	..	..	..	..	..	×	×
666	612	<i>Cutia nipalensis, Hodgs.</i>	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	×	×
667	650	<i>Parus sultaneus, Hodgs.</i>	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	×	×
668		<i>Parus cinereus, Bonn. et Vieil.</i>	..	..	×	×	×	×	×	§	×	×	×	×	×	×	×	×	×	×
669	644	<i>Parus monticolus, Vigors.</i>	..	..	×	×	×	×	×	B		..	..	..	..	..	..	..	×	×
670	647	<i>Parus xanthogenys, Vigors.</i>	..	..	×	×	×	×	×	..	×	×	×	×	×	×	×	×	×	×
671	648	<i>Parus haplonotus, Jerd.</i>	..	..	..	..	..	..	..	..	×	×	×	×	×	×	×	×	×	×
672	649	<i>Parus spilonotus, Blyth.</i>	..	..	..	..	..	..	..	..	§		..	..	..	..	..	..	×	×
673	638	<i>Parus melanolophus, Vigors.</i>	..	..	×	×	×	×	×	..	..	..	..	..	..	..	..	..	×	×
674	640	<i>Parus rufonuchalis, Blyth.</i>	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	×	×
675	640	<i>Parus rubridiventer, Blyth.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
676	637	<i>Parus dichrous, Hodgs.</i>	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	×	×
677	632	<i>Parus modestus, Burton.</i>	..	..	..	..	..	..	..	..	×	×	×	×	×	×	×	×	×	×
678		<i>Parus nuchalis, Jerd.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×	×
679	642	<i>Parus semodius, Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
680	651	<i>Accentor immaculatus, Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
681	655	<i>Accentor atrigularis, Brandt.</i>	..	..	×	×	×	×	×	..	..	..	..	..	..	..	..	..	×	×
682	656	<i>Accentor rubeculoides, Moore.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
683	654	<i>Accentor strophistatus, Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	×
684		<i>Accentor Jerdoni, Brooks.</i>	..	..	..	..	×	×	×	×	×	×	×	×	×	×	×	×	×	×
685	653	<i>Accentor altaicus, Brandt.</i>	..	..	..	..	×	×	×	×	×	×	×	×	×	×	×	×	×	×
686	652	<i>Accentor nipalensis, Hodgs.</i>	..	..	..	..	×	×	×	×	×	×	×	×	×	×	×	×	×	×
687	634	<i>Acredula erythrocephala, Vigors.</i>	..	..	..	..	×	×	×	×	§		..	..	..	..	..	..	×	×

B. Bhootan. D. Naga Hills. † Sikkim. § Assam. || Khasia Hills.  
L. Cachar. K. Dacca Hills.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Cochin.	Decan.	S. India.	British Burmah.	Nepaul.
688	635	<i>Acridula Jouschistos,</i> <i>Hodgs.</i> .....								B										x
689	636	<i>Acridula niveogularis,</i> <i>Moore</i> .....						X												
690	633	<i>Ægithalus flammeiceps,</i> <i>Burton</i> .....				X		X												X
691	580	<i>Regulus cristatus, Koch.</i> .....						?												x
692	609	<i>Ptererythrus erythrop-</i> <i>terus, Vigors.</i> .....					X	X	§	B										x
693		<i>Ptererythrus aeralatus,</i> <i>Tickell.</i> .....																	X	
694	610	<i>Ptererythrus rufiventer,</i> <i>Blyth.</i> .....																		x
695		<i>Ptererythrus intermedius,</i> <i>Hume.</i> .....																	X	
696	611	<i>Ptererythrus melanotis,</i> <i>Hodgs.</i> .....								B									X	x
697		<i>Ptererythrus xantho-</i> <i>chloris, Hodgs.</i> .....								B										x
698		<i>Lanius fallax, Finck.</i> .....	?	X		X				B										x
699		<i>Lanius assimilis, Brehm.</i> .....	X	X		X	X											X		
700	256	<i>Lanius lahtora, Sykes.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
701	258	<i>Lanius tephronotus, Vigors.</i> .....								X	§								X	x
702	257	<i>Lanius erythronotus,</i> <i>Vigors.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
703	259	<i>Lanius nigriceps, Frankl.</i> .....					X	X	B	X	§	X							X	x
704	261	<i>Lanius cristatus, Lin.</i> .....	X	X			X	X	X	X	B	§							X	X
705		<i>Lanius lucionensis, Lin.</i> .....																	X	
706	262	<i>Lanius isabellinus, Ehrenb.</i> .....	X	X	X	X	X	X	X	X		†			X					
707		<i>Lanius phoeniceoides,</i> <i>Severtz.</i> .....	X	X	X	X	X	X	X	X	X									
708	260	<i>Lanius vittatus, Valenc.</i> .....	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		X
709		<i>Lanius collyrioides, Less.</i> .....																	X	
710	243	<i>Certhia himalayana, Vigors.</i> .....				X	X			§										X
711	245	<i>Certhia discolor, Blyth.</i> .....								B										x
712	244	<i>Certhia nipalensis, Hodgs.</i> .....								B	§									x
713	246	<i>Salpornis spilonotus,</i> <i>Frankl.</i> .....										X								
714	247	<i>Tichodroma muraria, Lin.</i> .....				X	X	X												X
715		<i>Sitta nagaensis, Godw.</i> <i>Austen.</i> .....								X										
716		<i>Sitta magna, Wardlaw-</i> <i>Ramsay.</i> .....																		X
717		<i>Sitta himalayensis, Jard.</i> <i>et Selby.</i> .....					X	X												x
718		<i>Sitta neglecta, Wald.</i> .....																	X	
719	250	<i>Sitta castaneiventris,</i> <i>* Frankl.</i> .....										X	X						X	

B. Bhootan. † Sikkim. § Assam. † Khasia Hills. † Andaman. \* Malabar.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Katch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
720	251	<i>Sitta cinnamomeiventris</i> , <i>Blyth</i> .						X		X									X	X
721	249	<i>Sitta leucopsis</i> , <i>Gould</i> .						X												X
722	252	<i>Sitta formosa</i> , <i>Blyth</i> .						X		X										
723	253	<i>Sitta frontalis</i> , <i>Swains</i> .								X	X	X				X	X		X	
724		<i>Chalcostetha insignis</i> , <i>Jard</i> .																	X	
725	231	<i>Æthopyga saturata</i> , <i>Hodgs</i> .								S	B									xt
726	226	<i>Æthopyga Vigorsii</i> , <i>Sykes</i> .								S	B						X	X		
727	225	<i>Æthopyga schæriæ</i> , <i>Tickell</i> .						X		S	B								X	xt
728	228	<i>Æthopyga ignicauda</i> , <i>Hodgs</i> .						X		B										xt
729	230	<i>Æthopyga nipalensis</i> , <i>Hodgs</i> .						X												xt
730		<i>Æthopyga sanguinepectus</i> , <i>Wald</i> .																	X	
731	227	<i>Æthopyga gouldiæ</i> , <i>Vigors</i> .						X												xt
732		<i>Æthopyga dabryi</i> , <i>J. Ferr</i> .																	X	
733	234	<i>Cinnyris asiatica</i> , <i>Lath</i> .	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
734		<i>Cinnyris brevirostris</i> , <i>Blansf</i> .	X	X																
735	235	<i>Cinnyris lotenia</i> , <i>Linn</i> .															X	X		
736	233	<i>Cinnyris minima</i> , <i>Sykes</i> .															X	X		
737	232	<i>Cinnyris zeylonica</i> , <i>Linn</i> .								S	X						X	X		
738		<i>Cinnyris Hasseltii</i> , <i>Temm</i> .																	X	
739		<i>Cinnyris flammeimaxillaris</i> , <i>Blyth</i> .								†									X	
740	224	<i>Arachnothera longirostris</i> , <i>Vieil</i> .								X	†								X	
741	223	<i>Arachnothera magna</i> , <i>Hodgs</i> .								S									X	xt
742		<i>Arachnothera modesta</i> , <i>Eyton</i> .																	X	
743		<i>Arachnothera chrysogenys</i> , <i>Temm</i> .																	X	
744		<i>Anthothreptes hypogram-</i> <i>mica</i> , <i>S. Mull</i> .																	X	
745		<i>Anthothreptes simplex</i> , <i>S. Mull</i> .																	X	
746		<i>Anthothreptes phœnicotis</i> , <i>Temm</i> .																	X	
747		<i>Anthothreptes malaccensis</i> , <i>Scop</i> .																	X	
748	631	<i>Zosterops palpebrosa</i> , <i>Temm</i> .	X				X	X	X	X	X	X	X			X	X	X	X	X
749		<i>Zosterops aureiventer</i> , <i>Hume</i> .																	X	
750		<i>Zosterops siamensis</i> , <i>Blyth</i> .																	X	
751	236	<i>Dicaeum cruentatum</i> , <i>Linn</i> .								X									X	X
752		<i>Dicaeum trigonostigma</i> , <i>Scop</i> .								X									X	

B. Bhootan. \* Malabar. † Andamans. ‡ Sikkim. § Assam. | Khasia Hills.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oindh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Orissan.	Decan.	S. India.	British Borneo.	Nepal.
753	241	<i>Dicaeum ignipectus</i> , <i>Hodgs.</i>	...	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	×	×
754	237	<i>Dicaeum chrysorrhaeum</i> , <i>Temm.</i>	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	...	×	×
755	239	<i>Dicaeum concolor</i> , <i>Jerd.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
756		<i>Dicaeum inornatum</i> , <i>Hodgs.</i>	...	...	...	...	...	...	...	B	...	...	...	...	...	...	...	...	×	×
757	238	<i>Dicaeum erythrorhynchum</i> , <i>Lath.</i>	...	...	...	...	...	...	...	×	...	×	×	...	...	×	×	×	×	×
758		<i>Prionochilus ignicapillus</i> , <i>Eyton.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
759		<i>Prionochilus maculatus</i> , <i>Tem.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
760	242	<i>Prionochilus melanoxanthus</i> , <i>Hodgs.</i>	...	...	...	...	...	...	...	§	...	...	...	...	...	...	...	...	×	...
761	240	<i>Prionochilus squalidus</i> , <i>Burton</i>	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×	×
762		<i>Prionochilus modestus</i> , <i>Hume.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
763	92	<i>Chelidon urbica</i> , <i>Linn.</i>	...	×	...	...	×	...	...	...	...	...	...	...	...	...	...	×	...	...
764	93	<i>Chelidon cashmiriensis</i> , <i>Gould.</i>	...	...	...	...	...	×	...	...	...	...	...	...	...	...	...	×	...	...
765		<i>Chelidon lagopus</i> , <i>Pallas.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
766	94	<i>Chelidon nipalensis</i> , <i>Hodgs.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	×
767	87	<i>Cotile riparia</i> , <i>Linn.</i>	×	×	...	×	×	...	...	...	...	...	...	×	...	...	...	×	×	×
768	88-89	<i>Cotile sinensis</i> , <i>J. E. Gray.</i>	×	...	...	×	×	×	...	×	...	...	×	×	×	×	×	×	×	×
769	90	<i>Cotile concolor</i> , <i>Sykes</i>	...	...	...	×	×	×	...	×	×	×	×	×	×	×	×	×	×	×
770	91	<i>Cotile rupestris</i> , <i>Scop.</i>	...	...	...	×	×	×	...	×	×	×	×	×	×	×	×	×	×	×
771		<i>Cotile obsoleta</i> , <i>Cab.</i>	×	×	...	...	...	...	...	×	...	...	...	×	×	×	×	×	×	×
772	82	<i>Hirundo rustica</i> , <i>Linn.</i>	×	×	×	×	×	×	×	§	×	×	×	×	×	×	×	×	×	×
773		<i>Hirundo gutturalis</i> , <i>Scop.</i>	...	...	...	...	×	...	...	...	...	...	...	×	...	×	×	×	×	×
774		<i>Hirundo erythrogastra</i> , <i>Bodd.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
775		<i>Hirundo tytleri</i> , <i>Jerd.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...
776	83	<i>Hirundo javanica</i> , <i>Sparrm.</i>	...	...	...	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×
777	84	<i>Hirundo smithi</i> , <i>Leach.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
778		<i>Hirundo nipalensis</i> , <i>Hodgs.</i>	...	...	...	...	×	...	...	×	...	...	...	...	...	...	...	...	×	×
779		<i>Hirundo japonica</i> , <i>Tem.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	...
780	85	<i>Hirundo erythropygia</i> , <i>Sykes.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
781	86	<i>Petrochelidon fluviicola</i> , <i>Blyth</i>	...	...	...	×	×	×	...	×	×	×	×	×	×	...	...	...	×	...
782		<i>Motacilla alba</i> , <i>Linn.</i>	×	×	×	×	×	×	...	×	×	×	×	×	×	×	×	×	×	×
783		<i>Motacilla ocularis</i> , <i>Swinh.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	×	×	×	×	×
784	591	<i>Motacilla personata</i> , <i>Gould.</i>	×	×	×	×	×	×	...	×	...	...	...	...	...	...	...	...	×	×
785	590	<i>Motacilla leucopsis</i> , <i>Gould.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	×
786		<i>Motacilla hodgsoni</i> , <i>Blyth.</i>	...	...	...	...	...	...	...	×	...	...	...	...	...	...	...	...	×	×
787	589	<i>Motacilla madraspatensis</i> , <i>Gm.</i>	×	×	...	×	×	×	...	×	×	×	×	×	×	×	×	×	×	×
788	582	<i>Motacilla melanope</i> , <i>Pall.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

§ Bhootan.    † Malabar.    ‡ Andamans.    § Sikkim.    § Assam.    ¶ Khasia Hills.

No. in Avicenna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
789		<i>Motacilla citreola, Pall.</i> ...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
790	594	<i>Motacilla citreoloides,</i> <i>Hodgs.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
791		<i>Motacilla beema, Sykes.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
792	593	<i>Motacilla borealis, Sunder.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
793		<i>Motacilla Feldeggii, Mic.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
794	595	<i>Limonidromus indicus,</i> <i>Gould.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
795	597	<i>Anthus trivialis, Linn.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
796	596	<i>Anthus maculatus, Hodgs.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
797	598	<i>Anthus nilgheriensis,</i> <i>Sharpe.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
798	604	<i>Anthus sordidus, Rupp.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
799	603	<i>Anthus Jerdoni, Finch.</i> ...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
800	599	<i>Anthus Richardi, Vieill.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
801	601	<i>Anthus striolatus, Blyth.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
802	602	<i>Anthus campestris, Linn.</i> ...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
803	600	<i>Anthus rufulus, Vieill.</i> ...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
804		<i>Anthus cervinus, Pall.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
805	605	<i>Anthus rosaceus, Hodgs.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
806		<i>Anthus spipoletta, Linn.</i> ...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
807	606	<i>Oreocorys sylvanus, Hodgs.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
808		<i>Coccothraustes humii,</i> <i>Sharpe</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
809	727	<i>Mycerobas melanoxanthus,</i> <i>Hodgs.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
810	725	<i>Pycnoramphus icterioides,</i> <i>Vigors.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
811	726	<i>Pycnoramphus affinis,</i> <i>Blyth.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
812	728	<i>Pycnoramphus carneipes,</i> <i>Hodgs.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
813	752	<i>Fringilla montifringilla,</i> <i>Linn.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
814	746	<i>Procarduelis nipalensis,</i> <i>Hodgs.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
815		<i>Procarduelis rubescens,</i> <i>Blanf.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
816	749	<i>Carduelis caniceps, Vigors.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
817	750	<i>Chrysomitris spinoides,</i> <i>Vigors</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
818		<i>Chrysomitris thibetana,</i> <i>Hume.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
819	748	<i>Callacanthus Burtoni,</i> <i>Gould.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
820		<i>Acanthis brevirostris, Bp.</i> ..	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
821		<i>Acanthis fringillirostris,</i> <i>Bp.</i> .....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

B. Bhootan. \* Malabar. † Andamans. ‡ Sikkim. § Assam. || Khasi Hills.



No in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
822		Montifringilla Adamsi, Moore. ....	E				X	X												
823		Montifringilla ruficollis, Blanf. ....						X		†										
824		Montifringilla blanfordi, Hume. ....								†										
825	745	Montifringilla sordida, Stol.				X	X	X												
826	753	Montifringilla nemoricola, Hodgs. ....																		X
827		Montifringilla Brandti, Bp.						X		†										
828		Rhodopechys sanguinea, Gould. ....	X		X	X														?
829		Erythrospiza githaginea, Licht. ....	X	X	X	X	X	X			X				X	X	X	X		
830	711	Petronia flavicollis, Frankl.	X	X	X	X	X	X			X	X	X	X	X	X	X	X		
831	710	Passer montanus, Koch. ...	X	X	X	X	X	X		§†					X	X	X	X	X	X
832	706	Passer domesticus, Linn. ...	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		
833	709	Passer pyrrhonotus, Blyth.	X																	
834	707	Passer hispaniolensis, Tem.	X	X	X	X	X	X			X				X					
835	708	Passer cinnamomeus, Gould. ....					X	X	X	§										X
836		Passer assimilis, Walden. ...																		X
837		Passer flaveolus, Blyth. ...																		X
838		Serinus pectoralis, Murray.	X																	
839	751	Serinus pusillus, Pall. ....		X	X	X	X	X												
840	733	Pyrrhopterus epauletta, Hodgs. ....																		X†
841	738	Carpodacus erythrurus, Pall. ....	X	X	X	X	X	X	X	§		X						X	X	X†
842	735	Carpodacus sipahi, Hodgs.																		X†
843	737	Carpodacus rubicilla, Gould. ....																		X
844	741	Carpodacus grandis, Blyth.				X	X													†
845	742	Carpodacus rhodochrous, Vigors. ....					X													X
846	739	Carpodacus rhodopeplus, Vigors. ....					X	X												X
847		Carpodacus Edwardsi, Ferr.								B										X†
848	740	Carpodacus thura, Bp. & Schleg. ....																		X†
849	744	Carpodacus dubius, Pryr. ...																		X†
850		Carpodacus ambiguus, Hume. ....					X													X
851	743	Carpodacus pulcherrimus, Hodgs. ....							X											X†
852	747	Pyrrhospiza punicea, Hodgs. ....																		X†
853	734	Loxia curvirostra, Linn. ...																		X†

R. Hoogstra.
R. Indus Valley.
† Sikkim.
§ Assam.
• Malabar.

No. in Avifauna.	Jerdon's Nos.	Species.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces Oodh.	Bengal.	Rajputana.	Central India.	Central Prov. Kugh.	Guzerat.	Concan.	Deccan.	S. India.	British Barmah.	Nepal.
854	729	<i>Pyrrhula erythrocephala</i> , <i>Vigors</i> .....					X	X										xt
855	731	<i>Pyrrhula nipalensis</i> , <i>Hodgs</i> .....																xt
856	730	<i>Pyrrhula erithacus</i> , <i>Blyth</i> .....																†
857	732	<i>Pyrrhula aurantiaca</i> , <i>Gould</i> .....					X	X										
858	736	<i>Propyrrhula subhimalayensis</i> , <i>Hodgs</i> .....																xt
859		<i>Emberiza schœniclus</i> , <i>Lin</i> .....				X	X	X										
860	720	<i>Emberiza pusilla</i> , <i>Pall</i> .....							S								X	xt
861	719	<i>Emberiza fucata</i> , <i>Pall</i> .....					X	X									X	X
862	721	<i>Emberiza melanocephala</i> , <i>Soop</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
863	722	<i>Emberiza luteola</i> , <i>Sparrm</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
864	723	<i>Emberiza aureola</i> , <i>Pall</i> .....							S								X	xt
865		<i>Emberiza rutila</i> , <i>Pall</i> .....							B								X	xt
866	717	<i>Emberiza spodocephala</i> , <i>Pall</i> .....								S							X	X
867	716	<i>Emberiza buchanani</i> , <i>Blyth</i> .....	X	X	X	X	X	X			X		X	X	X			
868	714	<i>Emberiza Stracheyi</i> , <i>Moore</i> .....	X	X			X	X										
869	718	<i>Emberiza Stewarti</i> , <i>Llyth</i> .....	X	X	X	X	X	X										
870	712	<i>Emberiza leucocephala</i> , <i>Gm</i> .....		X		X	X	X										
871		<i>Fringillaria striolata</i> , <i>Licht</i> .....	X	X	X	X	X	X		X				X	X			
872	724	<i>Melophus melanicterus</i> , <i>Gm</i> .....	X							X	X	X	X	X	X	X	X	X
873	694	<i>Ploceus phillipinus</i> , <i>Lin</i> .....	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
874		<i>Ploceus baya</i> , <i>Blyth</i> .....								X								X
875	695	<i>Ploceus manyar</i> , <i>Horsf</i> .....	X				X	X	X	xt	X	X	X	X				
876		<i>Ploceus bengalensis</i> , <i>Lin</i> .....	X				?	?		Sx							X	
877	696	<i>Ploceus javanensis</i> , <i>Less</i> .....															X	
878	697	<i>Amadina malacca</i> , <i>Lin</i> .....									X					X		
879	698	<i>Amadina atricapilla</i> , <i>Vieill</i> .....					X	X	X							X	X	
880	699	<i>Amadina punctulata</i> , <i>Lin</i> .....	X						X		X	X		X		X	X	
881	700	<i>Amadina pectoralis</i> , <i>Jerd</i> .....														X		
882		<i>Amadina leucogastra</i> , <i>Blyth</i> .....															X	
883	702	<i>Amadina acuticauda</i> , <i>Hodgs</i> .....								S							X	†
884	701	<i>Amadina striata</i> , <i>Linn</i> .....							X		X	X	X	X	X	X	X	
885	703	<i>Amadina malabarica</i> , <i>Linn</i> .....	X	X			X	X	X	X	X	X	X	X	X	X		
886		<i>Erythrura prasina</i> , <i>Sparrm</i> .....															X	
887		<i>Estrilda punicea</i> , <i>Horsf</i> .....															X	
888	704	<i>Estrilda amandava</i> , <i>Linn</i> .....	X	X	X	X	X	X	Sx	X	X	X	X	X	X	X		
889	705	<i>Estrilda forficata</i> , <i>Latk</i> .....									X	X						
890	754	<i>Mirafra assamica</i> , <i>McClell</i> .....						X	X		X	X						
891	755	<i>Mirafra affinis</i> , <i>Jerd</i> .....							X		X	X				X	X	
892	756	<i>Mirafra erythroptera</i> , <i>Jerd</i> .....	X	X			X	X	X	X	X	X	X	X	X			
893	757	<i>Mirafra cantillans</i> , <i>Jerd</i> .....					X	X	X	X	X	X						
894	759	<i>Ammonance lusitana</i> , <i>Gm</i> .....	X	X	X	X	X	X	X									

Malabar.

† Sikkim.

§ Assam.

|| Khasia Hills

No. in Avifauna.	Jerdon's Nos.	SPECIES	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Corcan.	Deccan.	S. India.	British Burmah.	Nepal.
895	758	<i>Anmomanes phœnicura</i> , <i>Frankl.</i> .....						X	X	X		X					X	X		
896	760	<i>Pyrrhuloxia grisea</i> , <i>Scop.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X	X	
897		<i>Pyrrhuloxia melanauchen</i> , <i>Cab.</i> .....	X	X	X						X									
898	761	<i>Calandrella brachydactyla</i> , <i>Leisl.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
899		<i>Melanocorypha bimacu-</i> <i>lata</i> , <i>Menetr.</i> .....	X	X	X	X														
900	762	<i>Alaudula raytal</i> , <i>Blyth</i> .....	X							X			X						X	
901		<i>Alaudula Adamsi</i> , <i>Hume</i> .....	X				X	X	X											
902	763	<i>Otocorys penicillata</i> , <i>Gould.</i> .....					X	X												X
903	765	<i>Spizalauda deva</i> , <i>Sykes</i> .....					X	X	X			X						X		
904	767	<i>Alauda gulgula</i> , <i>Frankl.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
905	769	<i>Galerida cristata</i> , <i>Lin.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
906	770	<i>Certhilauda desertorum</i> , <i>Stanley.</i> .....	X	X	X	X	X	X	X											
907	681	<i>Sturnus vulgaris</i> , <i>Lin.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
908		<i>Sturnus minor</i> , <i>Hume.</i> .....	X																	
909	682	<i>Sturnus unicolor</i> , <i>Marmora.</i> .....	X	X		X	X	X												
910		<i>Sturnopastor superciliosus</i> , <i>Blyth.</i> .....																		X
911	683	<i>Sturnopastor contra</i> , <i>Lin.</i> .....					X	X	X	X	X	X	X							
912	684	<i>Acridotheres tristis</i> , <i>Lin.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
913	685	<i>Acridotheres ginginianus</i> , <i>Lath.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
914	686	<i>Acridotheres fuscus</i> , <i>Tem.</i> .....	X				X	X		X	X	X	X	X	X	X	X	X	X	X
915		<i>Acridotheres siamensis</i> , <i>Swinh.</i> .....																		X
916	687	<i>Sturnia pagodarum</i> , <i>Gmel.</i> .....	X				X	X	X	X							X	X	X	
917		<i>Sturnia sturnina</i> , <i>Pall.</i> .....																	X	
918		<i>Sturnia sinensis</i> , <i>Gmel.</i> .....																	X	
919		<i>Sturnia Burmannica</i> , <i>Jerd.</i> .....																	X	
920		<i>Sturnia leucocephala</i> , <i>Gigl.</i> <i>&amp; Salo.</i> .....																		X
921	688	<i>Sturnia malabarica</i> , <i>Gmel.</i> .....					X	X	X	X	X						X	X	X	
922	689	<i>Sturnia Blythi</i> , <i>Jerd.</i> .....																	X	
923		<i>Sturnia nemoricola</i> , <i>Jerd.</i> .....																	X	
924		<i>Calornis chalybea</i> , <i>Horsf.</i> .....								X									X	
925	690	<i>Pastor roseus</i> , <i>Lin.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
926	693	<i>Gracula intermedia</i> , <i>A. Hay.</i> .....										X	X	X						X
927	692	<i>Gracula religiosa</i> , <i>Lin.</i> .....																	X	
928	691	<i>Saraglossa spiloptera</i> , <i>Figors.</i> .....					X	X												X
929		<i>Ampeliceps coronatus</i> , <i>Blyth.</i> .....																		X
930		<i>Gracupica nigricollis</i> , <i>Payk.</i> .....																		X

\* Malabar.

§ Assam.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sindh.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Orindh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
931		<i>Anthoicincta Phayrii</i> , <i>Blyth</i> .....																		
932	344	<i>Pitta nipalensis</i> , <i>Hodgs</i> .....																	X	..
933		<i>Pitta Oatesi</i> , <i>Hume</i> .....																	X	..
934		<i>Pitta cœrulea</i> , <i>Raffles</i> .....																	X	..
935		<i>Pitta cyanea</i> , <i>Blyth</i> .....									B								X	..
936		<i>Pitta cyanoptera</i> , <i>Tem</i> .....																	X	..
937		<i>Pitta megarhyncha</i> , <i>Schl</i> .....																	X	..
938	345	<i>Pitta brachyura</i> , <i>Lin</i> .....					X	X	X	X	X	X			X	X	X	*	X	†
939		<i>Pitta coccynea</i> , <i>Eyton</i> .....																	X	..
940	346	<i>Pitta cucullata</i> , <i>Hartl</i> .....									§								X	†*
941		<i>Encichla Gurneyi</i> , <i>Hume</i> .....																	X	..
942		<i>Calyptomena viridis</i> , <i>Raffles</i> .....																	X	..
943	138	<i>Parisomus Dalhousiæ</i> <i>Jameson</i> .....					X	X		B	§								X	†
944		<i>Serilophus lunatus</i> , <i>Gould</i> .....																	X	..
945	139	<i>Serilophus rubropygius</i> , <i>Hodgs</i> .....								§	§									†
946		<i>Eurylemus javanicus</i> , <i>Horsf</i> .....																	X	..
947		<i>Eurylemus ochromelas</i> , <i>Raffles</i> .....																	X	..
948		<i>Corydon sumatranus</i> , <i>Raffles</i> .....																	X	..
949		<i>Cimborhynchus macrorhynchus</i> , <i>Gm</i> .....																	X	..
950	98	<i>Cypselus melba</i> , <i>Lin</i> .....	X	X	X	X	X	X	X				X	X	X	X	X	X		..
951	99	<i>Cypselus apus</i> , <i>Lin</i> .....	X	X	X	X	X	X	?		X		X	X	X	X	X			..
952	100	<i>Cypselus affinis</i> , <i>Gray</i> .....	X	X	X	X	X			X			X	X	X	X	X			X
953		<i>Cypselus acuticaudus</i> , <i>Blyth</i> .....						X												..
954		<i>Cypselus pacificus</i> , ( <i>Lathi</i> ).....																	X	..
955		<i>Cypselus subfurcatus</i> , <i>Blyth</i> .....																	X	..
956	101	<i>Cypselus leuconyx</i> , <i>Blyth</i> .....																*	X	..
957	102	<i>Cypselus batassiensis</i> , <i>Gray</i> .....					X		x§			X				*	X			..
958		<i>Cypselus infumatus</i> , <i>Sclater</i> .....								§									X	..
959		<i>Hirundinapus giganteus</i> , <i>Van Hass</i> .....																	X	..
960	96	<i>Hirundinapus indicus</i> , <i>Hume</i> .....															*		X	..
961		<i>Hirundinapus leucopygialis</i> , <i>Blyth</i> .....																	X	..
962	95	<i>Hirundinapus sylvatica</i> , <i>Tiek</i> .....					X	X			X								X	..

Malabar.

† Sikkim.

§ Assam.

|| Khasia Hill.

B. Bhootan.

No. in Appendix.	Index No.	Species.	Malaya.	Siam.	Assam.	Khasia Hill.	B. Shoonas.	Sumatra.	Java.	Philippines.	Formosa.	China.	Japan.
963	97	<i>Hirundinapus candacula</i> , <i>Lath.</i> .....											
964	103	<i>Collocalia unicolor</i> , <i>Jerd.</i> .....											
965		<i>Collocalia inornata</i> , <i>Hume.</i> .....											X
966		<i>Collocalia spodiopygia</i> , <i>Peale.</i> .....											X
967		<i>Collocalia Linchi</i> , <i>Horsf. &amp;</i> <i>Moore.</i> .....											X
968		<i>Dendrochelidon coronatus</i> , <i>Tick.</i> .....			X		X	X					X
969		<i>Dendrochelidon longipennis</i> , <i>Rafn.</i> .....											X
970		<i>Dendrochelidon comatus</i> , <i>Tem.</i> .....											X
971	105	<i>Batrachostomus moniliger</i> , <i>Blyth.</i> .....					X						X
972	106	<i>Batrachostomus affinis</i> , <i>Blyth.</i> .....											X
973	112	<i>Caprimulgus asiaticus</i> , <i>Lath.</i> .....	X		?		X		X	X	X		X
974	113	<i>Caprimulgus mahrattensis</i> , <i>Sykes.</i> .....	X	X		X	X		X	X	X		X
975	114	<i>Caprimulgus monticolus</i> , <i>Frankl.</i> .....					X		X	X			X
976	109	<i>Caprimulgus albonotata</i> , <i>Tick.</i> .....				X	X		X	X			X
977	111	<i>Caprimulgus atripennis</i> , <i>Jerd.</i> .....											X
978		<i>Caprimulgus Unwini</i> , <i>Hume.</i> .....	X	X	X	X							X
979	107	<i>Caprimulgus indicus</i> , <i>Lath.</i> .....											X
980		<i>Caprimulgus Kelaarti</i> , <i>Blyth.</i> .....							X				X
981		<i>Caprimulgus jota</i> , <i>Tem.</i> .....											X
982		<i>Lyncornis cerviniceps</i> , <i>Gould.</i> .....											X
983	115	<i>Harpactes fasciatus</i> , <i>Gmel.</i> .....					X						X
984	116	<i>Harpactes erythrocephalus</i> , <i>Gould.</i> .....											X
985		<i>Harpactes oreskios</i> , <i>Tem.</i> .....											X
986		<i>Harpactes Duvancelli</i> , <i>Temm.</i> .....											X
987	199	<i>Cuculus canorus</i> , <i>Lin.</i> ..	X	X	X	X	X	X	X	X	X	X	X
988	200	<i>Cuculus striatus</i> , <i>Drap.</i> ..							X				X
989	201	<i>Cuculus poliocephalus</i> , <i>Lath.</i> .....											X
990	202	<i>Cuculus sonneratti</i> , <i>Lath.</i> ..											X

\* Malaya.

† Sikkim

§ Assam.

|| Khasia Hill.

B. Shoonas.

		Genus.		And.	Assam.	Bengal.	Bihar.	Calcutta.	Central India.	Central Prov.	Coorg.	Madras.	Malabar.	Malaya.	Orissa.	Punjab.	Sikkim.	Tamil.	Uttar Pradesh.	Yamunotri.
991	203	<i>Caculus micropterus</i> , <i>Gould.</i>																		
992	207	<i>Hierococcyx sparverinoides</i> , <i>Vigors.</i>																		
993	209	<i>Hierococcyx varius</i> , <i>Fahl.</i>																		
994		<i>Hierococcyx nanus</i> , <i>Hume.</i>																		
995	206	<i>Hierococcyx nasicolor</i> , <i>Hodgs.</i>																		
996		<i>Cacomantis threnodes</i> , <i>Cab. et Hein.</i>																		
997	208	<i>Cacomantis nigra</i> , <i>Jerd.</i>																		
998	210	<i>Surniculus lugubris</i> , <i>Horsf.</i>																		
999	211	<i>Chrysococcyx maculatus</i> , <i>Gm.</i>																		
1000		<i>Chrysococcyx xanthorhynchus</i> , <i>Horsf.</i>																		
1001		<i>Chrysococcyx Limborgi</i> , <i>Twiss.</i>																		
1002	212	<i>Coccyzus Jacobinus</i> , <i>Bodd.</i>	X																	
1003	213	<i>Coccyzus coromandus</i> , <i>Linn.</i>																		
1004	214	<i>Eudynamis honorata</i> , <i>Linn.</i>																		
1005		<i>Eudynamis malayana</i> , <i>Cab. et Hein.</i>																		
1006		<i>Rhinortha chlorophæa</i> , <i>Raffles</i>																		
1007	215	<i>Rhopodytes tristis</i> , <i>Less.</i>																		
1008		<i>Rhopodytes diardi</i> , <i>Less.</i>																		
1009		<i>Rhopodytes sumatranus</i> , <i>Raffles</i>																		
1010	216	<i>Rhopodytes viridirostris</i> , <i>Jerd.</i>																		
1011		<i>Rhamphococcyx erythrog-nathus</i> , <i>Hartl.</i>																		
1012		<i>Zanclostomus Javanicus</i> , <i>Horsf.</i>																		
1013		<i>Centrococcyx maximus</i> , <i>Hume.</i>	X																	
1014	217	<i>Centrococcyx rufipennis</i> , <i>Illigr.</i>																		
1015		<i>Centrococcyx intermedius</i> , <i>Hume.</i>																		
1016	218	<i>Centrococcyx bengalensis</i> , <i>Gmel.</i>																		
1017	219	<i>Taccocua Leschenaulti</i> , <i>Less.</i>																		
1018	220	<i>Taccocua sirkeer</i> , <i>Gray.</i>	X																	
1019	221	<i>Taccocua infusata</i> , <i>Blyth.</i>																		

\* Malabar.

† Sikkim.

§ Assam.

No. in Africa.	Jordan's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Cowcan.	Deccan.	S. India.	British Burmah.	Nepaul.
1020		<i>Megalæma marshallorum</i> , <i>Swinh.</i> .....								X									X	..
1021		<i>Megalæma virens</i> , <i>Bodd</i> ..																	X	..
1022		<i>Megalæma mystacophanus</i> , <i>Tem.</i> .....																	X	..
1023	192	<i>Megalæma Hodgsoni</i> , <i>Bonap.</i> .....								X	S								X	..
1024	193	<i>Megalæma caniceps</i> , <i>Frankl.</i> .....					X	X	X	X	X	X	X						X	..
1025		<i>Megalæma inornata</i> , <i>Wald.</i> ..										X								..
1026	194	<i>Megalæma viridis</i> , <i>Gmel.</i> ..																	X	..
1027	195	<i>Cyanops asiatica</i> , <i>Lath.</i> ..						X		X	S								X	..
1028		<i>Cyanops Davisoni</i> , <i>Hume.</i> ..																	X	..
1029		<i>Cyanops incognita</i> , <i>Hume.</i> ..																	X	..
1030		<i>Cyanops Hamsayi</i> , <i>Wald.</i> ..																	X	..
1031	197	<i>Xantholæma hæmacephala</i> , <i>P. L. S. Mull.</i> .....	X	?			X	X	X	X	X	X	X	X	X	X	X	X	X	X
1032	198	<i>Xantholæma malabarica</i> , <i>Blyth.</i> .....																		..
1033		<i>Xantholæma cyanotis</i> , <i>Blyth.</i> .....								X	S								X	..
1034		<i>Caloramphus Havi</i> , <i>Gray.</i> ..																	X	..
1035	188	<i>Yunx torquilla</i> , <i>Linn.</i> ..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1036	190	<i>Indicator xanthonotus</i> , <i>Blyth.</i> .....																		..
1037	186	<i>Vivia inornata</i> , <i>Burton.</i> ..																	X	..
1038	187	<i>Sasia ochracea</i> , <i>Hodge.</i> ..																	X	..
1039		<i>Gnuropicoides Rafflesi</i> , <i>Vigors.</i> .....																	X	..
1040	177	<i>Gecinulus Grantia</i> , <i>McClell.</i> ..																	X	..
1041		<i>Gecinulus viridis</i> , <i>Blyth.</i> ..																	X	..
1042	184	<i>Tiga Javanensis</i> , <i>Ljungh.</i> ..										X							X	..
1043	180	<i>Brachypternus aurantias</i> , <i>Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1044	181	<i>Brachypternus chrysouotus</i> , <i>Less.</i> .....														X			X	..
1045	178	<i>Micropternus phæoceps</i> , <i>Blyth.</i> .....								X	S	X							X	..
1046		<i>Micropternus brachyurus</i> , <i>Vieil.</i> .....																	X	..
1047	179	<i>Micropternus gularis</i> , <i>Jerd.</i> ..																	X	..
1048	176	<i>Venilia pyrrhotis</i> , <i>Hodgs.</i> ..								X	S								X	..
1049		<i>Venilia porphyromelas</i> , <i>Boie.</i> .....																	X	..
1050		<i>Callolophus mentalis</i> , <i>Tem.</i> ..																	X	..
1051		<i>Callolophus malaccensis</i> , <i>Lath.</i> .....																	X	..
1052		<i>Callolophus puniceus</i> , <i>Horsf.</i> ..																	X	..

\* Malabar.

† Sikkim.

‡ Assam.

§ Khasia Hills.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Baluchistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1053	173	<i>Chrysophlegma flavinucha</i> , <i>Gould.</i> .....								×	§	×§							×	×
1054	174	<i>Chrysophlegma chlorolo-</i> <i>phus, Vieill.</i> .....								×	§	×§							×	×
1055	175	<i>Chrysophlegma chlorigas-</i> <i>ter, Jerd.</i> .....																		
1056	170	<i>Gecinus squamatus, Vigors</i> .....				×	×	×	×									×		×
1057	171	<i>Gecinus striolatus, Blyth.</i> .....				×	×	×	×	×	§	×§			×			×	×	×
1058	172	<i>Gecinus occipitalis, Vigors</i> .....				×		×	×	§	B									×
1059		<i>Gecinus viridanus, Blyth</i> .....																	×	
1060		<i>Gecinus erythropygus,</i> <i>Elliot.</i> .....																	×	
1061	169	<i>Thriponax hodgsoni, Jerd.</i> .....																×		
1062		<i>Thriponax javensis, Horsf.</i> .....																	×	
1063		<i>Thriponax Feddeni, Blanford</i> .....																	×	
1064	168	<i>Mulleripicus pulverulentus,</i> <i>Tem.</i> .....						×	×										×	×
1065	166	<i>Chrysocolaptes strictus,</i> <i>Horsf.</i> .....					×	×	×	×	×	§	×	×			*	×	×	×
1066	167	<i>Chrysocolaptes festivus,</i> <i>Bodd.</i> .....									×	×								
1067	165	<i>Hemicercus cordatus, Jerd.</i> .....									×	×					*	×	×	
1068		<i>Hemicercus sordidus,</i> <i>Eyton.</i> .....																		×
1069	154	<i>Picus himalayanus, Jerd.</i> <i>and Selby.</i> .....					×	×	×											×
1070	155	<i>Picus majoroides, Hodgk.</i> .....																		×
1071	156	<i>Picus cathpharius, Hodgk.</i> .....													B					×
1072	158	<i>Picus scindianus, Gould.</i> .....	×	×	×	×	×	×	×											×
1073	157	<i>Picus macii, Vieill.</i> .....					×	×	×	×										×
1074		<i>Picus analis, Tem.</i> .....																	×	
1075		<i>Picus atratus, Blyth.</i> .....																	×	
1076	159	<i>Picus brunneifrons, Vigors.</i> .....					×	×	×											×
1077	160	<i>Picus maharattensis, Lath.</i> .....	×	×			×	×	×		×	×		×	×	×	×			×
1078		<i>Picus canicapillus, Blyth.</i> .....								×	§								×	
1079		<i>Picus pumilus, Hargitt.</i> .....																	×	
1080	161	<i>Hypopicus hyperythrus,</i> <i>Vigors.</i> .....					×	×												
1081	162	<i>Iyngipicus rubricatus,</i> <i>Blyth.</i> .....																		×
1082	163	<i>Iyngipicus pygmaeus</i> <i>Vigors.</i> .....					×	×												×
1083	164	<i>Iyngipicus • Hardwickii,</i> <i>Jerd.</i> .....					×	×	×			×						×		
1084		<i>Meiglyptes grammithorax,</i> <i>Mess.</i> .....																	×	
1085		<i>Meiglyptes jugularis,</i> <i>Blyth.</i> .....																	×	

• Malabar. † Sikkim. § Assam. || Khasia Hills. B. Bhootan.



No in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Balochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central Indh.	Central Prov.	Kutch.	Guzerat.	Corom.	Deccan.	S. India.	British Barmah.	Nepaul.
1086		<i>Meiglyptes tukki, Less.</i> .....																	X	...
1087		<i>Psittinus<sup>f</sup> incertus, Shaw.</i> .....																	X	...
1088	153	<i>Loriculus vernalis, Sparrm.</i> .....					X	X	X		§	B			X		*		X	†
1089	152	<i>Palæornis fasciatus, P.L.S.</i> .....					X	X	X		§								X	...
		<i>Mull.</i> .....					X	X	X		§								X	...
1090	151	<i>Palæornis columboides,</i> <i>Vigors</i> .....						6									*	X		...
1091	147	<i>Palæornis indoburmannicus</i> <i>Hume,</i> .....					X	X	X			X				*	X	X	X	†
1092	150	<i>Palæornis schisticeps,</i> <i>Hodgs,</i> .....					X	X	X		§								X	...
1093	148	<i>Palæornis torquatus, Bodd.</i> .....	X				X	X	X	X	§	X	X	X	X	X	X	X	X	X
1094		<i>Palæornis cyanocephalus,</i> <i>Lin.</i> .....					X	X	X	X									X	X
1095	149	<i>Palæornis rosa, Bodd.</i> .....					X	X	X	X	§	X	X	X	X	X	X	X	X	X
1096	254	<i>Upupa epops, Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*	X	X
1097		<i>Upupa longirostris, Jerd.</i> .....						X										*	X	...
1098	255	<i>Upupa ceylonensis, Reich.</i> .....					X											X	X	...
1099	117	<i>Merops viridis, Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1100	118	<i>Merops philippinus, Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1101	119	<i>Merops Leschenaulti, Vieill.</i> .....								X								X	X	...
1102	120	<i>Merops persicus, Pall.</i> .....	X	X	X	X	X	?											X	...
1103	121	<i>Merops apiaster, Linn.</i> .....	X	X	X	X	X	X			X			X		X				...
1104	122	<i>Nyctiornis Athertoni, Jard</i> <i>and Selb.</i> .....						X	X	§								X	X	...
1105		<i>Nyctiornis amicta, Tem.</i> .....																	X	...
1106	125	<i>Coracias garrula, Linn.</i> .....	X	X	X	X	X	X											X	...
1107	123	<i>Coracias indica, Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1108		<i>Coracias affinis, McClell.</i> .....								X	§								X	...
1109	126	<i>Eurystomus orientalis,</i> <i>Linn.</i> .....						X	X	X	§								X	...
1110	134	<i>Alcedo bengalensis, Gm.</i> .....	X	X		X	X	X			X	X	X	X	X	X	X	X	X	...
1111		<i>Alcedo grandis, Blyth.</i> .....																		†
1112		<i>Alcedo isipids, Linn.</i> .....	X	X	X															...
1113		<i>Alcedo asiatica, Sws.</i> .....																	X	...
1114		<i>Alcedo euryzona, Tom.</i> .....																		...
1115	137	<i>Ceryle guttata Fig.</i> .....					X	X	X	X	§								X	...
1116	136	<i>Ceryle rudis, Linn.</i> .....	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X
1117	131	<i>Halcyon coromanda, Lath.</i> .....							X	X									X	†
1118	129	<i>Halcyon amyrnensis, Linn.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X	X	†
1119	130	<i>Halcyon pileata, Bodd.</i> .....															*		X	...
1120	132	<i>Halcyon chloris, Bodd.</i> .....								X						X			X	...
1121		<i>Halcyon concreta, Tem.</i> .....																	X	...
1122		<i>Carcinectes pulchellus,</i> <i>Horsf.</i> .....																		X
1123	133	<i>Ceyx tridactyls, Pall.</i> .....								X						X	X	X		...

\* Malabar.

\* † Sikkim.

§ Assam.

R. Bhootan.

No. in Africa.	Jerdon's Nos.	Species.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Borneo.	Bengal.
1124	127	<i>Pelargopsis gural,</i> <i>Pearson.</i>						X		X		X	X							
1125	128	<i>Pelargopsis amauroptera,</i> <i>Pearson.</i>								X									X	
1126		<i>Pelargopsis burmanica,</i> <i>Sharpe.</i>																	X	
1127	140	<i>Dichoceros bicornis, Linn.</i>								X						X			X	
1128	141	<i>Anthracoceros coronatus,</i> <i>Bodd.</i>										X							X	
1129	142	<i>Anthracoceros albirostris,</i> <i>Shaw.</i>					X			X									X	
1130	143	<i>Anthracoceros affinis,</i> <i>Hulton.</i>						X												
1131		<i>Rhinoplax vigil,</i> <i>J. R. Forst.</i>					X												X	
1132	145	<i>Rhinoplax griseus,</i> <i>Lath.</i>																	X	
1133	144	<i>Ocyrceros birostris, Scop.</i>																	X	
1134		<i>Rhytidoceros subruficollis,</i> <i>Blyth.</i>																	X	
1135		<i>Rhytidoceros undulatus,</i> <i>Shaw.</i>																	X	
1136		<i>Aceros nipalensis, Hodgs.</i>					X	X		X									X	
1137		<i>Anorrhinus comatus,</i> <i>Raffles.</i>																	X	
1138		<i>Anorrhinus galeritus, Tem.</i>																	X	
1139		<i>Anorrhinus Tickelli, Blyth.</i>																	X	
1140	771	<i>Treron nipalensis, Hodgs.</i>								X									X	
1141	772	<i>Crocopus phenicopterus,</i> <i>Lath.</i>					X	X	X	X	X	X							X	
1142	773	<i>Crocopus chlorigaster,</i> <i>Blyth.</i>	X						X	X	X	X			X	X	X	X	X	
1143		<i>Crocopus viridifrons,</i> <i>Blyth.</i>																	X	
1144	774	<i>Osmotreron bicincta, Jerd.</i>							X	X	X	X							X	
1145		<i>Osmotreron vernana, Linn.</i>																	X	
1146	775	<i>Osmotreron malabarica,</i> <i>Jerd.</i>														X			X	
1147	776	<i>Osmotreron Phayrii, Blyth.</i>								X	X								X	
1148		<i>Osmotreron fulvicollis,</i> <i>Wagl.</i>									X								X	
1149	777	<i>Osmotreron pompadoura,</i> <i>Gmel.</i>																	X	
1150	778	<i>Sphenocercus sphenurus,</i> <i>Vigors.</i>					X	X		X									X	
1151	779	<i>Sphenocercus apicaudus,</i> <i>Hodgs.</i>								X									X	
1152	780	<i>Carpophaga senex, Linn.</i>								X	X	X							X	

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burma.	Nepal.
1153	781	<i>Carpophaga insignis</i> , <i>Hodge</i> .....																X		
1154		<i>Carpophaga griseicapilla</i> , <i>Wald.</i> .....																	X	
1155		<i>Carpophaga bicolor</i> , <i>Scop.</i> .....																	A	
1156	785	<i>Palumbus pulchricollis</i> , <i>Hodge</i> .....																		
1157	784	<i>Palumbus casiotis</i> , <i>Bonap.</i> .....	X	X	X	X	X	X												X
1158	786	<i>Palumbus Elphinstonei</i> , <i>Sykes</i> .....														X	X	X		
1159	787	<i>Palumbus Eversmanni</i> , <i>Bp.</i> .....	X								X						X			
1160	788	<i>Columba intermedia</i> , <i>Strickl.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1161		<i>Columba livia</i> , <i>Bonap.</i> .....	X	X	X	X													X	
1162	789	<i>Columba rupestris</i> , <i>Pall.</i> .....					X	X	X											
1163	790	<i>Columba leucotis</i> , <i>Vigors</i> .....					X	X												
1164	782	<i>Alsocomus puniceus</i> , <i>Tickell</i> .....								X	§	X	X					C	X	
1165	783	<i>Alsocomus Hodgsoni</i> , <i>Vigors</i> .....						X												X
1166	791	<i>Macropygia leptogram-</i> <i>mica</i> , <i>Temm.</i> .....								X									X	X
1167		<i>Macropygia assimilis</i> , <i>Hume</i> .....																	X	
1168	792	<i>Turtur pulchratus</i> , <i>Hodge</i> .....			X	X	X	X			X	X							X	X
1169	793	<i>Turtur meena</i> , <i>Sykes</i> .....								X	§					X	X	C	X	X
1170	794	<i>Turtur senegalensis</i> , <i>Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
1171	795	<i>Turtur suratensis</i> , <i>Gmel.</i> .....	X			X	X	X	X	X	X	X	X	X	X	X	X	X		
1172		<i>Turtur tigrinus</i> , <i>Tem.</i> .....														X				
1173	796	<i>Turtur risorius</i> , <i>Linn.</i> .....	X	X		X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1174	797bis.	<i>Turtur humilis</i> , <i>Tem.</i> .....	X	X			X	X	X	X	X	X	X	X	X	X	X	C	X	
1175	798	<i>Chalcophaps indica</i> , <i>Linn.</i> .....						?		§	X	A	N					?	C	X
1176		<i>Geopelia striata</i> , <i>Linn.</i> .....								§	X	A	N						X	
1177		<i>Caloenas nicobarica</i> , <i>Linn.</i> .....										M	N							
1178	801ter.	<i>Pterocles coronatus</i> , <i>Licht.</i> .....	X	X	X	X	X													
1179	801bis.	<i>Pterocles senegallus</i> , <i>Linn.</i> .....	X	X		X				X		X	X	X	X					
1180	799	<i>Pterocles arenarius</i> , <i>Pull.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
1181	802	<i>Pterocles exustus</i> , <i>Tem.</i> .....	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		
1182	801	<i>Pterocles alchata</i> , <i>Linn.</i> .....	X	X	X	X	X	X		X										
1183	800bis.	<i>Pterocles Lichtenstenii</i> , <i>Tem.</i> .....	X	X			X													
1184	800	<i>Pterocles fasciatus</i> , <i>Scop.</i> .....	X			X	X	X		X	X				X		X			
1185		<i>Syrhaptes tibetanus</i> , <i>Gould.</i> .....						X												X
1186	803	<i>Pavo cristatus</i> , <i>Linn.</i> .....	X			X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1187		<i>Pavo muticus</i> , <i>Linn.</i> .....																	X	
1188		<i>Argusianus argus</i> , <i>Linn.</i> .....																	X	

\* Malabar.

† Sikkim.

§ Assam.

|| Khasia Hills.

O. Ceylon.

M. Mergui Archipel.

A. Andamans.

N. Nicobars.

No. in Africa.	Jordan's Nos.	SPECIES.	Sind	Belochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces	Ondh.	Kengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Orissa.	Necan.	S India.	British Borneo.	Nepal.
1189		<i>Polyplectron thibetanum</i> , <i>Gm.</i> .....							B.										X	...
1190		<i>Megapodius nicobariensis</i> , <i>Blyth.</i> .....							N											...
1191		<i>Crossoptilon thibetanum</i> , <i>Hodgs.</i> .....																		X
1192	804	<i>Lophophorus lympeyanus</i> , <i>Lath.</i> .....						X	B.										x†	
1193		<i>Lophophorus sclateri</i> , <i>Jerd.</i> .....							S.											...
1194	805	<i>Cerionis satyra</i> , <i>Linn.</i> .....				X	X		B.										x†	
1195	806	<i>Cerionis melanocephalus</i> , <i>Gray.</i> .....					X	X											x†	
1196	807	<i>Ithaginis cruentus</i> , <i>Hardw.</i> .....																	x†	
1197	808	<i>Pucrasia macrolopha</i> , <i>Lesson.</i> .....						X	B										X	
1198	809	<i>Phasianus Wallichi</i> , <i>Hardw.</i> .....					X	X											X	
1199	810	<i>Euplocamus alboeristatus</i> , <i>Vigors.</i> .....					X	X											X	
1200		<i>Euplocamus leucomelanus</i> , <i>Lath.</i> .....																	X	
1201	811	<i>Euplocamus melanotus</i> , <i>Blyth.</i> .....							B.										†	
1202		<i>Euplocamus horsfieldi</i> , <i>G. R. Gray.</i> .....									§	§								
1203		<i>Euplocamus lineatus</i> , <i>Elliot.</i> .....																	X	
1204		<i>Euplocamus Cuvieri</i> , <i>Tenn.</i> .....							H.											
1205		<i>Euplocamus Andersoni</i> , <i>Elliot.</i> .....																	X	
1206		<i>Euplocamus Vieilloti</i> , <i>G. R. Gray.</i> .....																	X	
1207	812	<i>Gallus ferrugineus</i> , <i>Gm.</i> .....					X	X	§	X	X	X	X	X	X	X	X	X	X	
1208	813	<i>Gallus sonnerati</i> , <i>Tem.</i> .....									X	X	X	X	X	X	X	X		
1209	814	<i>Galloperdix spadiceus</i> , <i>Gmel.</i> .....									X	X	X	X	X	X	X	X	X	
1210	815	<i>Galloperdix lunulatus</i> , <i>Valenc.</i> .....								X								X		
1211	816	<i>Tetraogallus Himalayensis</i> , <i>G. R. Gray.</i> .....						X												
1212		<i>Tetrao thibetanus</i> , <i>Gould.</i> .....						X												
1213	817	<i>Lerwa nivicola</i> , <i>Hodgs.</i> .....						X											x†	
1214	818	<i>Francolinus vulgaris</i> , <i>Steph.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
1215	819	<i>Francolinus pictus</i> , <i>Jard.</i> <i>and Selby.</i> .....									X	X	X	X	X	X	X	X		
1216		<i>Francolinus chinensis</i> , <i>Osborn.</i> .....																	X	
1217	820	<i>Cacabis chukor. Gray.</i> .....	X	X	X	X	X	X											X	

† Sikkim.

§ Assam.

|| Khasia Hills.

B. Bhootan.

N. Nicobars.

S. Sadya.

H. Arracan Hills.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces	Ondh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burma.	Nepal.
1218	821	<i>Ammoperdix bonhami</i> , <i>Gray</i> .	x	x	x	x	x	x												
1219	822	<i>Ortygornis ponticeriana</i> , <i>Gmel.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	cx		
1220	823	<i>Ortygornis gularis</i> , <i>Tem.</i>						x	x	x										
1221	824	<i>Arboricola torqueola</i> , <i>Valenc.</i>						x		B.										x†
1222		<i>Arboricola atrogularis</i> , <i>Blyth.</i>									§	Sy.	Ch.	T.	G.					
1223		<i>Arboricola brunneipectus</i> , <i>Tick.</i>																	x	
1224		<i>Arboricola chloropus</i> , <i>Tick.</i>														x			x	
1225		<i>Arboricola intermedia</i> , <i>Blyth.</i>									A.	N.								
1226	825	<i>Arboricola rufogularis</i> , <i>Blyth.</i>									§								x	
1227		<i>Arboricola mandelli</i> , <i>Hume.</i>								B.										
1228		<i>Bambusicola Fytchii</i> , <i>Andr.</i>								§		G.	N.						x	
1229		<i>Caloperdix oulea</i> , <i>Tem.</i>																	x	
1230		<i>Rollulus roulroul</i> , <i>Scop.</i>																	x	
1231	826	<i>Perdica asiatica</i> , <i>Lath.</i>					x	x	x	x	x	x	x	x	x	x	x	cx		
1232	827	<i>Perdica argoonda</i> , <i>Sykes.</i>					x	x	x	x	x	x	x	x	x	?	x			
1233		<i>Ophrysia superciliosa</i> , <i>J. E.</i> <i>Gray.</i>						x												
1234	828	<i>Microperdix erythrorhyn-</i> <i>cha</i> , <i>Sykes.</i>														x	x	x		
1235		<i>Microperdix Blewitti</i> , <i>Hume.</i>											x							
1236	829	<i>Coturnix communis</i> , <i>Linn.</i>	x	x	x	x	x	x	x	Sy.	x	A.	x	x	x	x	x	x	x	x
1237	830	<i>Coturnix coromandelica</i> , <i>Gmel.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1238		<i>Excalfactoria chinensis</i> , <i>Linn.</i>								§	x		x	x	Sy.			C.	x	†
1239	{832} {833}	<i>Turnix plumbeipes</i> , <i>Hodgs.</i>					x	x	x									C.	x	
1240	834	<i>Turnix joudera</i> , <i>Hodgs.</i>	x			x	x	x	x	x			x	x	x	x	x	cx		
1241	835	<i>Turnix Dussumieri</i> , <i>Tem.</i>	x			x	x	x	x	x			x	x	x	x	x	x		
1242		<i>Turnix maculosa</i> , <i>Tem.</i>									A.		T.						x	
1243		<i>Turnix albiventris</i> , <i>Hume.</i>																		
1244		<i>Otis tarda</i> , <i>Linn.</i>								Hastnagar.										
1245		<i>Otis tetrax</i> , <i>Linn.</i>					?	x	x											
1246	836	<i>Eupodotis Edwardsi</i> , <i>Gray</i>	x			x	x	x	x		x	x	x	x	x		x			
1247	837	<i>Haubara Macqueenii</i> , <i>Gray</i>	x	x	x	x	x	x	x		x	x	x	x	x					
1248	838	<i>Sypheotides bengalensis</i> , <i>Gmel.</i>					x	x	x	x	L.	Sy.	§							
1249	839	<i>Sypheotides auritus</i> , <i>Lath.</i>	x				x	x	x	x	x	x	x	x	x	x	x	x	x	

‡ Sikkim    § Assam.    || Khasia Hills.    A. Arracan.    B. Bhootan.    C. Ceylon.  
 Sy. Sylhet.    G. Garo Hills.    T. Tipperah.    Ch. Chittagong.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Bind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Burmah.	Nepaul.
1250	840	<i>Cursorius coromandelicus</i> , <i>Gmel.</i> .....	X	X						X	X	?		X	X	X	X	X		
1251	840bis.	<i>Cursorius gallicus</i> , <i>Gmel.</i> .....	X	X		X	X	X	X	X	X			X	X	X	X	X		
1252	841	<i>Rhinopula bitorquata</i> , <i>Jerd.</i> .....																	X	
1253	842	<i>Glareola orientalis</i> , <i>Beach.</i> .....	X							X								X	C.	X
1254	842bis.	<i>Glareola pratincola</i> , <i>Linn.</i> .....	X		X													X		X
1255	843	<i>Glareola lactea</i> , <i>Tem.</i> .....	X				X	X		X								X		X
1256	844	<i>Squatarola helvetica</i> , <i>Linn.</i> .....	X							X				X				X		X
1257	845	<i>Charadrius fulvus</i> , <i>Gm.</i> .....	X				X	X		?							X	X		X
1258	845bis.	<i>Charadrius pluvialis</i> , <i>Linn.</i> .....	X	X																
1259	846	<i>Ægialitis Geoffroyi</i> <i>Wagl.</i> .....	X	X	X					X							X	X		X
1260	847	<i>Ægialitis mongolica</i> , <i>Pall.</i> .....	X	X	X					X							X	X		X
1261	848	<i>Ægialitis cantiana</i> , <i>Lath.</i> .....	X	X	X	X	X	X	X	X					X		X	CX		X
1262	849	<i>Ægialitis dubia</i> , <i>Scop.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X		X	CX		X
1263	850	<i>Ægialitis Jerdoni</i> , <i>Legg.</i> .....	X	X						X					X		X	C.	X	
1264	851	<i>Vanellus cristatus</i> , <i>Meyer</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
1265	852	<i>Chettusia gregaria</i> , <i>Pall.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
1266	853	<i>Chettusia leucura</i> , <i>Licht.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	?		X
1267	854	<i>Chettusia cinerea</i> , <i>Blyth.</i> .....	X	X			X	X		X										X
1268	857	<i>Hoplopterus ventralis</i> , <i>Linn.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X			X
1269	855	<i>Lobivanellus indicus</i> , <i>Bod.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1270	855bis.	<i>Lobivanellus, atrouuchalis</i> , <i>Blyth</i> .....																		X
1271	856	<i>Sarciophorus bilobus</i> , <i>Gmel.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	CX		X
1272	858	<i>Asacus recurvirostris</i> , <i>Cuv.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	CX		X
1273	859	<i>Edicnemus crepitans</i> , <i>Tem.</i> .....	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X
1274	860	<i>Streptilas interpres</i> , <i>Linn.</i> .....	X	X	X						X							X		X
1275	861	<i>Dromas ardeola</i> , <i>Paykull.</i> .....	X	X	X										X		X	C		X
1276	862	<i>Hæmatopus, ostralegus</i> , <i>Linn.</i> .....	X	X	X	X				X					X		X	CX		X
1277	863	<i>Grus antigone</i> , <i>Linn.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X	X		X
1278	864	<i>Grus leucogeranus</i> , <i>Pall.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X			X
1279	865	<i>Grus cinerea</i> , <i>Bechst.</i> .....	X				X	X	X	X	X	X	X	X	X	X	X			X
1280	866	<i>Anthropoides virgo</i> , <i>Linn.</i> .....	X	X	?	X	X	X	X	X	X	X	X	X	X	X	X	X		X
1281	867	<i>Scolopax rusticola</i> , <i>Linn.</i> .....	X	X	X	X	X	X	X	X										X
1282	868	<i>Gallinago nemoricola</i> , <i>Hodgs.</i> .....							X									CX		X
1283	869	<i>Gallinago solitaria</i> , <i>Hodgs.</i> .....						X			B.							C.		X
1284	870	<i>Gallinago stenura</i> , <i>Kuhl.</i> .....	X	X		X	X	X		X	X	X	X	X	X	X	X	C.		X
1285	871	<i>Gallinago scolopacina</i> , <i>Bonap.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	CX		X
1286	872	<i>Gallinago gallinula</i> , <i>Linn.</i> .....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	CX		X
1287	873	<i>Rhynchocapensis</i> , <i>Linn.</i> .....	X	X	X		X	X	X	X	X	X	X	X	X	X	X	CX		X
1288	886	<i>Limicola platyrhyncha</i> , <i>Tem.</i> .....	X	X							X				X	X	X	X		X

Bhootan.

C. Ceylon.

S. Assam.

Note.—Marks in the columns Beloochistan and Persia refer chiefly to the coast and gulf of those countries.

No. in Africa.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Bajputana.	Central India.	Central Prov.	Kutub.	Guzerat.	Coonan.	Deccan.	S. India.	British Burmah.	Nepaul.
1289	887	Eurynorhynchus pygmaeus, Linn. ....							X									C.	X	...
1290	884	Tringa minuta, Leisl. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1291		Tringa subminuta, Midd. ....	X						X									C.	X	...
1292	885	Tringa temmincki, Leisl. ....	X															C.	X	...
1293		Tringa crassirostris, Tem. Schleg. ....	X	X															X	...
1294	882	Tringa subarquata, Gould. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1295	883	Tringa cinclus, Linn. ....	X			X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1296	880	Machetes pugnax, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1297	888	Calidris arenaria, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1298	890	Phalaropus hyperboreus, Linn. ....	X	X	X													C.		...
1299	889	Phalaropus fularius, Linn. ....							X									C.		...
1300	893	Actitis hypoleucos, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1301	892	Actitis ochropus, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1302	891	Totanus glareola, Gmel. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1303	894	Totanus canescens, Gmel. ....	X						X	X	X	X	X	X	X	X	X	C.	X	...
1304	895	Totanus stagnatilis, Bechst. ....	X						X	X	X	X	X	X	X	X	X	C.	X	...
1305	897	Totanus calidris, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1306	896	Totanus fuscus, Linn. ....	X	X					X				X	X	X			C.	X	...
1307		Totanus Haughtoni, Hume. ....							X										X	...
1308		Totanus dubius, Murray. ....	X																	...
1309	876	Terekia cinerea, Gould. ....	X	X				X	X				X	X	X	X	X	C.	X	...
1310	874	Pseudosclopax semipalmatus, Jerd. ....																	X	...
1311	875	Limosa egocephala, Linn. ....	X	X	X	X				X			X	X	X	X	X	C.	X	...
1312		Limosa lapponica, Linn. ....	X	X	X								X	X	X	X	X	C.	X	...
1313	878	Numenius phaeopus, Linn. ....	X	X	X				X				X	X	X	X	X	C.	X	...
1314	877	Numenius arquatus, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1315	879	Ibidorhynchus Struthersii, Vig. ....																		X
1316	899	Recurvirostra avocetta, Linn. ....	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	...
1317	898	Himantopus candidus, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1318	900	Metopodius indicus, Lath. ....							X		X	X	X	X	X	X	X	X	X	...
1319	901	Hydrophasianus chirurgus, Scop. ....	X				X	X	X	X	X	X	X					C.	B.	...
1320	902	Porphyrio poliocephalus, Lath. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1321	903	Fulica atra, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C.	X	...
1322		Podica personata, G.R. Gray. ....							X										X	...
1323	913	Hypotenidia striata, Linn. ....							X	ayl					X			C.		...
1324	914	Rallus indicus, Blyth. ....							X	ayl	X							C.	X	...
1325	912	Rallus euryzonoides, Lafron. ....					X	X	X	B								C.	X	...

C. Cashmere.

Note.—Marks in the columns Beloochistan and Persia refer chiefly to the coast and gulf of countries.

No. in Africa.	Jardou's No.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Orindh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
1326		<i>Rallina fasciata</i> , <i>Raff.</i> ...																	X	...
1327		<i>Rallina Canningi</i> , <i>Tytl.</i> ...								A									?	...
1328	910	<i>Porzana Bailloni</i> , <i>Vieill.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1329	906	<i>Porzana marueta</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	?	?	X	X	X	X	X	X	X	?	...
1330	911	<i>Porzana fusca</i> , <i>Linn.</i> ...								X	X			C				X		...
1331		<i>Porzana minuta</i> , <i>Pall.</i> ...	X															X		...
1332	908	<i>Porzana akool</i> , <i>Sykes</i> ...						X	X	X	X	X	X		X			X		...
1333	905	<i>Gallinula chloropus</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	?	X		X	X	X	X	X	...
1334	907	<i>Gallinula phoenicurus</i> , <i>Penn.</i> ...	X				X	X	X	X	X				X	X	X	X	X	...
1335	904	<i>Gallinula cinerea</i> , <i>Gm.</i> ...	X						X	X								X		...
1336	915	<i>Leptoptilos argala</i> , <i>Lath.</i> ...	X				X	X	X	X	X	X	X	X	X	X	X	X	X	...
1337	916	<i>Leptoptilos javanicus</i> , <i>Horsf.</i> ...								X	X	X	X					X		...
1338	917	<i>Xenorhynchus asiaticus</i> , <i>Lat.</i> ...	X				X	X	X	X	X	X	X	X	X	X	X	X	X	...
1339	918	<i>Ciconia nigra</i> , <i>Linn.</i> ...	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1340	919	<i>Ciconia alba</i> , <i>Belon.</i> ...	X				X	X	X	X	X	X	X	X	X	X	X	X	X	...
1341	920	<i>Ciconia leucocephala</i> , <i>Gm.</i> ...	X				X	X	X	?	X	X	!	X	X	X	X	X	X	...
1342	921	<i>Ardea goliath</i> , <i>Temm.</i> ...																		...
1343		<i>Ardea sumatrana</i> , <i>Raf.</i> ...																		...
1344	922	<i>Ardea insignis</i> , <i>Hodgson.</i> ...								X	\$								X	...
1345	923	<i>Ardea cinerea</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1346	924	<i>Ardea purpurea</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1347	925	<i>Herodias alba</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1348	926	<i>Herodias intermedia</i> , <i>Von</i> <i>Haaselt.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1349	927	<i>Herodias garzetta</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1350		<i>Herodias eulophotes</i> , <i>Swinh.</i> ...																	X	...
1351	928	<i>Demi-egretta gularis</i> , <i>Boac.</i> ...	X	X					X				X					X		...
1352		<i>Demi-egretta sacra</i> , <i>Gmel.</i> ...							N	A								X		...
1353	929	<i>Bubulcus coromandus</i> , <i>Bodl.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1354	930	<i>Ardeola grayi</i> , <i>Sykes</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1355		<i>Ardeola prasinocetes</i> , <i>Swinh.</i> ...																	X	...
1356	931	<i>Butorides javanica</i> , <i>Horsf.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1357	932	<i>Ardetta flavicollis</i> , <i>Lath.</i> ...	X				X	X	X	X					X	X	X	X	X	...
1358	933	<i>Ardetta cinnamomea</i> , <i>Gmel.</i> ...	X				X	X	X	X					X	X	X	X	X	...
1359	934	<i>Ardetta sinensis</i> , <i>Gmel.</i> ...	X				X	X	X	X					X	X	X	X	X	...
1360	935	<i>Ardetta minuta</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X					X	X	X	X	X	...
1361	936	<i>Botaurus stellaris</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X					X	X	X	X	X	...
1362	937	<i>Nycticorax griseus</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1363		<i>Gorsachius melanolophus</i> , <i>Raf.</i> ...								N								X		...
1364	938	<i>Tantalus leucocephalus</i> , <i>Penn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1365	939	<i>Platalea leucorodia</i> , <i>Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...

Note.—Marks in the columns Beloochistan and Persia refer chiefly to the coast and gulf of those countries.



No. in Avifauna.	Jerdon's Nos.	SPECIES. c	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Bajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan. e	Deccan.	S. India.	British Burmah.	Nepaul.
1366	940	<i>Anastomus oscitans, Bodd.</i>	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	..
1367	938	<i>Threskiornis melanocephalus, Lath.</i>	x	x	x	..	x	..	..	x	x	..	..	x	x	x	x	xc	x	..
1368	942	<i>Geronticus papillosus, Temm.</i>	x	x	x	..	x	x	x	x	x	..	..	x	x	x	x	xc	x	..
1369		<i>Graptocephalus, Davisoni, Hume.</i>	..	..	..	..	..	..	..	..	..	..	..	x	x	..	..	..	x	..
1370	948	<i>Falcinellus igneus, Linn.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	..	x	xc	x	..
1371	944	<i>Phœnicopterus antiquorum, Tem.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1372		<i>Phœnicopterus minor, Ge.f. St. Hil.</i>	x	..	x	..	x	x	..	x	..	..	..	..	x	..	x	..	..	..
1373		<i>Cygnus olor, Gm.</i>	x	..	x	..	x	x	..	x	..	..	..	x	..	..	..	..	..	..
1374	945	<i>Anser cinereus, Meyer.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	..	..	..	..	..
1375	946	<i>Anser brachyrhynchus, Baillon</i>	..	..	..	..	x	x	..	..	..	..	..	..	..	..	..	..	..	..
1376	947	<i>Anser albifrons, Gm.</i>	x	x	x	x	x	x	..	..	..	..	..	..	..	..	..	..	..	..
1377	948	<i>Anser erythropus, Linn.</i>	..	..	..	..	..	x	x	..	..	..	..	..	..	..	..	..	..	..
1378	949	<i>Anser indicus, Lath.</i>	x	..	..	..	x	x	x	..	..	..	x	..	..	..	..	..	..	..
1379	950	<i>Sarkidiornis melanotos, Pen.</i>	x	..	..	..	x	x	x	x	..	..	..	..	..	x	x	xc	x	..
1380	951	<i>Nettapus coromandelianus, Gmel.</i>	x	x	..	..	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1381	952	<i>Dendrocygna javanica, Horsf.</i>	x	..	..	..	x	x	x	x	..	..	..	..	..	x	x	xc	x	..
1382	953	<i>Dendrocygna fulva, Gmel.</i>	x	..	..	..	x	x	x	x	..	..	..	..	..	x	x	xc	x	..
1383	954	<i>Casarca rutila, Pall</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1384	955	<i>Casarca scutulata, Mull.</i>	..	..	..	..	..	..	..	§	..	..	..	..	..	..	..	..	x	..
1385	956	<i>Tadorna cornuta, Gm.</i>	x	x	x	x	x	x	x	x	..	..	..	..	..	..	..	..	..	..
1386	957	<i>Spatula clypeata, Linn.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	..	x
1387	958	<i>Anas boschas, Linn.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	..	..
1388	959	<i>Anas pœcilorhyncha, Forst.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1389	960	<i>Anas caryophyllacea, Lath.</i>	..	..	..	..	..	..	..	§	..	..	..	..	..	..	..	..	x	..
1390	961	<i>Chaulelasmus streperus, Linn.</i>	x	x	x	x	x	x	x	..	..	..	..	..	..	..	..	..	x	x
1391		<i>Chaulelasmus rufiventris, Sp. Nov.</i>	..	x	..	..	..	..	..	Syl	..	..	..	..	..	..	..	..	..	..
1392		<i>Chaulelasmus angustirostris, Menestries.</i>	x	x	x	x	x	x	x	x	..	..	..	..	..	..	..	..	..	..
1393	962	<i>Dasila acuta, Linn.</i>	x	x	x	x	x	x	x	x	..	x	x	x	x	x	x	xc	x	..
1394	963	<i>Mareca penelope, Linn.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1395	964	<i>Querquedula crecca, Linn.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1396	965	<i>Querquedula ciria, Linn.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xc	x	..
1397	966	<i>Querquedula formosa, Georgi.</i>	x	..	..	..	..	x	x	..	..	..	..	..	..	..	..	..	..	..
1398		<i>Querquedula falcata, Georgi.</i>	..	..	..	..	..	x	x	..	..	..	..	..	..	..	..	..	..	..
1399	967	<i>Fuligula rufo, Pall</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	..	..	..

Note.—Marks in the columns Beloochistan and Persia refer chiefly to the coast and gulf of those

BRITISH INDIA AND ITS DEPENDENCIES.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Province.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concar.	Decca.	S. In.	Brit.	N <sup>e</sup> .
1400	971	Fuligula cristata, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1401	970	Fuligula marila, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1402	968	Fuligula ferina, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1403	969	Fuligula nyroca, Gould. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1404		Clangula glaucion, Linn. ....	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1405		Eristmatura leucocephala, Scop. ....						X												
1406		Mergus serrator, Linn. ....	X																	
1407	972	Mergus merganser, Linn. ....	X	X	X					X										
1408	973	Mergellus albellus, Linn. ....	X	X	X	X	X	X												
1409	974	Podiceps cristatus Linn. ....	X	X	X	X	X	X	X	X				X	X					
1410		Podiceps nigricollis, Sund	X	X																
1411	975	Podiceps minor, Linn. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1412	976	Oceanites oceanica, Kuhl. ....	X	X						X									X	
1413		Daption capensis, Linn. ....																	C	
1414		Puffinus persicus, Hume. ....	X	X																
1415		Puffinus chlororhynchus, Lesson. ....								X									C	X
1416		Stercorarius asiaticus, Hume. ....	X																	
1417		Larus cacchinans, Pall. ....	X	X	X	X	X				X									
1418		Larus affinis, Reinh. ....	X	X										X	X	X	X	X		
1419		Larus gelastes, Licht. ....	X	X	X															
1420		Larus hemprichi, Bp. ....	X	X	X									X	X	X	X	X		
1421	980	Larus brunneicephalus Jerdon. ....	X	X	X					X				X	X	X	X	C	X	
1422	979	Larus ichthyæus, Pall. ....	X	X	X	X	X			X									X	
1423	981	Larus ridibundus, Linn. ....	X	X	X	X				X						X				
1424	984	Hydrochelidon hybrida, Pall. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1425		Hydrochelidon leucoptera, Meisn and Schinz. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1426		Hydrochelidon nigra, Lin. ....	X	X	X															
1427	983	Gelochelidon anglica, Mont.	X	X	X					X	X			X					X	
1428	982	Sterna caspia, Pall. ....	X	X	X	X	X	X											C	
1429	989	Sterna Bergii, Licht. ....	X	X	X					X				X					X	
1430		Sterna cantiaca, Gm. ....	X	X															X	
1431	990	Sterna media, Horsf. ♀. ....	X	X						X						X			X	
1432	991	Sterna melanauchen, Temm.	X																X	
1433	985	Sterna scena, Sykes. ....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1434	987	Sterna melanogastra, Temm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1435		Sterna Dougalli, Mont. ....								X									C	X
1436	986	Sterna hirundo, Linn. ....	X			X													X	
1437		Sterna albigena, Licht. ....	X	X															X	
1438		Sterna Saundersii, Hume. ....	X																	
1439	988	Sterna sinensis, Gm. ....	X							X									C	X
1440	992	Sterna anæsthetus, Scop. ....	X	X	X											X			C	X

Note.—Mark: in the columns Beloochistan and Persia refer chiefly to the coast and gulf of those countries.

			Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
		<i>Sterna fuliginosa, Gm.</i> .....	X	X	X	..	..	..	..	..	..	..	..	..	..	*	..	C	..	..
993		<i>Anous stolidus, Linn.</i> .....	X	X	..	..	..	..	..	X	..	..	..	..	..	..	..	..	..	..
1444	994	<i>Anous tenuirostris, Tem.</i> ...	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	..	..
1444		<i>Anous leucocapillus, Gould.</i>	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	..	..
1445	995	<i>Rhynchops albicollis.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		<i>Swains.</i> .....	X	X	X	..	..	..	..	X	..	..	..	X	..	X	..	X	X	..
1446	996	<i>Phæton rubricauda, Bodd.</i>	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	..	..
1447	997	<i>Phæton flavirostris, Brand.</i>	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	..	..
1448		<i>Phæton indicus, Hume.</i> ...	X	X	..	..	..	..	..	X	..	..	..	..	..	..	..	..	X	..
1449	1000	<i>Fregata aquila, Linn.</i> .....	..	..	..	..	..	..	..	X	..	..	..	..	..	*	..	C	..	..
1450		<i>Sula cyanops, Sunde.</i> .....	X	X	..	..	..	..	..	X	..	..	..	..	..	X	..	C	..	..
1451	998	<i>Sula australis, Steph.</i> .....	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	X	..
1452	999	<i>Sula piscator, Linn.</i> .....	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	..	..
1453		<i>Pelicanus crispus, Bruch.</i>	X	X	..	..	X	X	..	X	..	..	..	..	..	..	..	..	..	..
1454	1004	<i>Pelicanus manillensis, Gm.</i>	X	X	..	..	..	..	..	X	X	..	..	X	X	..	X	X	X	..
1455	1001 } 1003 }	<i>Pelicanus roseus, Gm.</i> .....	X	..	X	..	..	..	..	X	X	..	..	X	X	..	X	X	X	..
1456	1005	<i>Phalacrocorax carbo, Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1457	1006	<i>Phalacrocorax fuscicollis</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		<i>Steph.</i> .....	X	..	..	..	..	..	..	X	..	..	..	X	..	X	..	C	X	..
1458	1007	<i>Phalacrocorax pygmaeus</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		<i>Pall.</i> .....	X	..	..	..	..	..	..	X	..	..	..	X	X	..	X	C	X	..
1459	1008	<i>Plotus melanogaster, Penn.</i>	X	..	..	..	..	..	..	X	X	..	..	X	X	X	X	C	X	..

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